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IN THIS ISSUE

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CONTENTS

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UTERINE FIBROIDS IN THE BUTTOCK

AN UNUSUAL CASE

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Fibroids are notorious migrants. They may wander to the furthest corners of the abdomen, or journey, by the cervix and the vulva, into the outer world. Even when they arise from the lower uterine segment, these tumours make remarkable progress, burrowing downwards beside the vagina, or upwards and outwards between the folds of the broad ligament.

Sometimes, however, fibroids are trapped in the true pelvis, and, in their efforts to escape, compress neighbouring structures against its bony wall. In these circumstances they advertise their presence by causing dysuria, retention, constipation, venous congestion, pelvic neuralgia or hydro-ureter.

This case is presented because the fibroid, though trapped in the pelvis, managed to escape by an unusual route. In doing so, moreover, it caused surprisingly few symptoms.

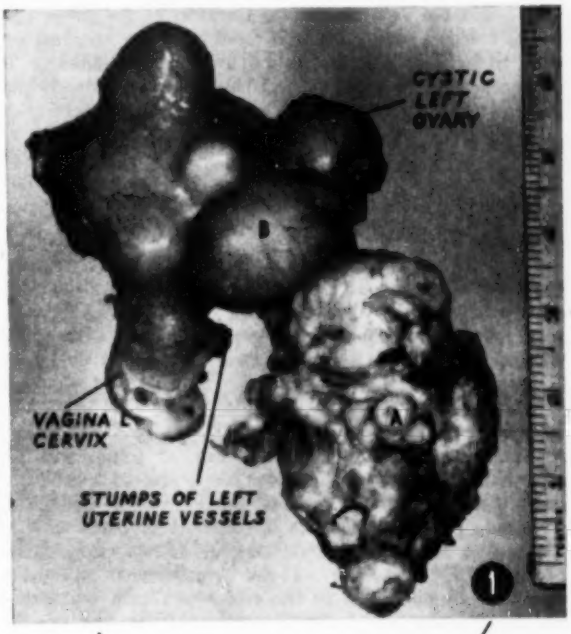
N. T., *aet.* 44, was first seen on 17 June 1952 in the Gynaecological Out-Patients' Department at Groote Schuur Hospital. She had come from Robben Island where she had had an episode of urinary retention 2 days before. She had been relieved by catheterization. Four months before this she had had a similar episode, relieved on that occasion by an injection. For 2 years she had suffered from a mild degree of stress incontinence and frequency of micturition. She complained of no pain whatsoever, and there was no history of bowel irregularity.

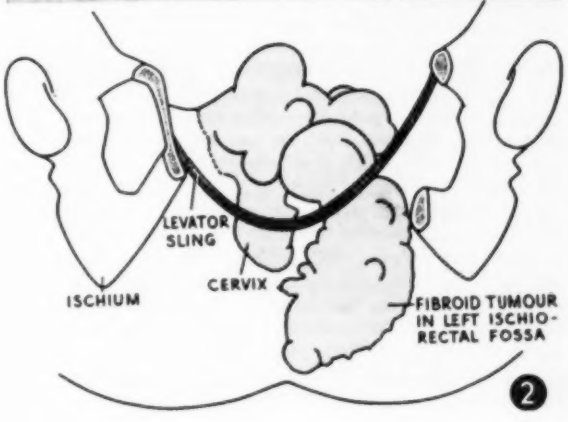
Her only pregnancy, 20 years ago, resulted in a full-term healthy child. Her menstrual cycle was regular 3/28, and the flow normal.

On examination of the abdomen, there was a rounded, firm, slightly tender mass, rising out of the pelvis to about one inch above the symphysis pubis. There were no other abdominal signs.

Vaginally the mass was found to be part of the uterus, which was the seat of several fibroids. A doughy mass was felt on the left of the uterus, extending from the level of the fundus down to the pouch of Douglas. It was not tender. The cervix was hypertrophied, but otherwise healthy.

At operation a few days later the uterus was seen to contain multiple medium-sized fibroids. There was a haemorrhagic cyst of the left ovary. The appendix was adherent to the right tube. After various adhesions had been freed, it was found that one fibroid, which arose from the left antero-lateral surface of the lower uterine segment, was attached firmly to the pelvic floor. Further exploration showed it to be anchored by a thick pedicle





which passed out of the pelvis through an aperture in the parietal peritoneum.

The uterus, together with the left tube and ovary, was mobilized in the usual way and was lifted out of the vagina. The anchoring pedicle was now followed downwards through the pelvic floor. It led to a large irregular mass which was separated by blunt dissection and delivered with some difficulty from its containing cavity. There was only moderate oozing, and the cavity was lightly packed with oxycel gauze. The aperture in the pelvic peritoneum was sutured.

The patient made an uneventful recovery and returned home by sea on the thirteenth day after operation.

The Department of Pathology reported as follows: 'There is an irregularly lobulated mass, measuring 13 × 6 × 5 cm. attached to the left side of the uterus by a pedicle 1 cm. in diameter. It consists of multiple firm grey-white whorled tumours resembling fibro-myomata.'

It seems certain that the mass found outside the pelvis had originated as a fibroid (or fibroids) of the lower part of the uterus. As it grew, it escaped from the myometrium only to become trapped in the lower pelvis, anterior to the broad ligament on the left side (Fig. 1). Meanwhile, another fibroid (B in Fig. 1) grew immediately behind A, and the latter was now thrust against the pelvic floor by this *vis a tergo*. Increasing pressure forced it through both visceral and parietal peritoneum. Using the ilio-coccygeus as a slip-way, it slid under the pubo-coccygeus to find itself in the ischio-rectal fossa (Fig. 2). It is evident that in this position it was, at least for a time, well-nourished through its pedicle, for it must have increased considerably in size after arriving in the fossa.

A study of the anatomy of the region shows that there is a well-marked hiatus, filled only by loose areolar tissue, between the ilio-coccygeus and the pubo-coccygeus. If the right forefinger is placed in this gap, and the left forefinger is introduced into the ischio-rectal fossa from below, the tips of the fingers meet at the apex of the fossa. Even when the fingers are moved backwards to sandwich the ilio-coccygeus, there is very little tissue between them. It is perhaps surprising, in the circumstances, that herniation of pelvic structures into the fossa occurs so seldom.

SUMMARY

The case presented is one of uterine fibroids found, at operation, to have migrated into the left ischio-rectal fossa. It was thought to be of interest because a review of the literature failed to disclose any similar case. It was further remarkable in that a fibroid mass of such size could be so successfully 'hidden' as to be missed completely on clinical examination.

The anatomy of the case is illustrated with the aid of a diagram.

My thanks are due to Prof. M. R. Drennan, of the Department of Anatomy for his help and advice in studying the relevant anatomical specimens, and to the Medical Superintendent, Groote Schuur Hospital, for permission to publish the case.

ANNOTATION

TETRA PAK: A SAFE WAY OF DISTRIBUTING MILK

A Swedish company, AB Tetra Pak of Lund, Sweden, announces that it has completed an 8-year long development work on a one-way milk package which will make possible a revolution in milk hygiene. This package is so cheap that it, for the first time in history, may make possible 100% packing of the consumption milk—the only way to guarantee to the consumers milk which has not deteriorated or been contaminated because of the packing and distribution process.

Most of the consumption milk in all countries including the U.S.A. is to-day distributed in glass bottles or in bulk. Bulk distribution is definitely insanitary and has long been viewed askance by health authorities, doctors and consumers. On the way from the dairy to the consumer even the best of milk which has been carefully pasteurized can be subject to different kinds of infection, some of which cause illnesses and some of which rapidly destroy the valuable ingredients of the milk. In some countries, e.g. Belgium and France, the hygienic risks of bulk distribution have enforced laws against it in the larger towns. The danger of infection has been too great. Milk is a fine culture medium for bacteria, especially pasteurized milk, which is very sensitive to infections.

It is of little help to enforce stricter regulations in the retail stores. The different types of containers in which the customers fetch the bulk milk are not always sufficiently washed. In fact, it is not always possible to make them quite safe even by careful washing, since this takes time and requires great care.

For a long time the dairies have tried to avoid these risks by selling milk in glass bottles. However, this method has several disadvantages. The bottles are liable to break —the capping operation can chip off flakes of glass, which may fall into the milk. They are heavy to transport and very difficult to handle. Still more important, they are difficult to clean satisfactorily. If they are not washed immediately, small portions of the milk will always stick and become infected. It is very difficult to remove these, even for modern dairies with large and expensive washing machines. Glass bottles have one more disadvantage. Through the so-called light-burn effect the fat as well as some of the albumins in milk are chemically changed, and the vitamin C is almost completely destroyed. This is why milk on Sunday mornings tastes of tin and it also means that valuable ingredients are destroyed.

The only solution of the problem is evidently a light-proof one-way package. The dairies naturally have turned to wax- or plastic-impregnated paper cartons. Although they are expensive and require costly, complicated machinery in the dairies, these cartons have become

extensively used in the U.S.A. and some other countries. In the U.S.A. about 500,000 tons of milk cartoon are used each year. In spite of that, only about one-third of the American fluid consumption milk is sold in paper. These packages, however, cannot be used very much more extensively because of their high paper costs and because of the heavy capital investments necessary to make and fill them.

Tetra Pak opens quite new possibilities. Tetra Pak promises to make possible a complete switch to milk in one-way packages even in countries with a comparatively low milk price, because of the very large savings. Tetra Pak saves 45-85% of the paper now used by standard cartons for a given quantity of milk, 75% of the man-hours and 75% of the space needed in the bottling plant. Besides, Tetra Pak requires much smaller investment in machinery and buildings. With Tetra Pak even small local dairies will be able to compete on an equal footing in the market. Thus with Tetra Pak smaller communities as well as people relying on supplies from small independent dairies can be assured that their milk has been fully protected against all risks during distribution.

A curious aspect of the Tetra Pak is that the amount of paper required to pack a given quantity of liquid is practically independent of the size of the packages. For the first time it becomes possible to pack cream in jigger-sized containers—just enough for one cup of coffee. This is of great interest especially to health authorities, since the glass or porcelain jiggers now used for cream in cafeterias and restaurants are very unsatisfactory from a hygienic point of view.

The cost of a jigger-sized Tetra Pak (containing 2.5 centilitres or 8.45 fluid ounces) is negligible—many hundred such packages can be obtained from 1 lb. of paper.

These enormous savings are possible because Tetra Pak is a tetrahedron, that is, a crystal-like 3-cornered pyramid, the base and sides of which are identical, equilateral triangles. On which ever side you put Tetra Pak it always comes right end up, because all the sides are identical. This shape, which gives the package a structural strength, makes possible the use of a smaller sheet of a lighter paper. The Tetra Pak machine works according to a simple principle. From a roll of heat-sealing, plastic-coated paper a tube is formed, the length seam of which is heat-sealed. The milk is continuously filled into the paper tube through a supply pipe of stainless steel. The filled paper tube is pressed together by heat-sealing jaws mounted on endless chains as it moves continuously downwards. This produces an endless garland of heat-sealed, filled tetrahedrons which are then separated from one another. Then the Tetra Paks are packed in hexagonal transport containers, which they fill completely. These containers, which look like the cells of a honeycomb, can be stacked on and besides each other without loss of space.

Tetra Pak offers a better hygiene because:

1. When paper is coated with plastic it is heated to full sterility. Afterwards it is delivered to dairies in well-wrapped rolls, protected from infection. Besides, in a roll every layer of paper protects the next one.

2. In the machine the paper is covered and protected from airborne infection.

3. For safety's sake, the paper can optionally be sterilized once more immediately before it is formed into a tube.

4. The milk can never adhere to the outside of the packages. The milk is always inside the tube.

5. The foam problem is entirely eliminated. Tetra Pak is the only package in the world which keeps the surface of the milk at a constant level during the filling process. The supply pipe always ends below the milk surface. A free jet of milk never hits the surface and draws with it air into the milk, with foam as a result.

6. The milk is protected from airborne infection. No infected air can touch the milk surface. The air in the paper tube is closed in between the milk surface, the paper walls and the tube-forming organ. There is no hydraulic sucking action of a free jet of milk, which could stir the air.

7. Tetra Pak counteracts the deterioration of milk by light.

Tetra Pak is an entirely new development. Because of the large interest all over the world there may be a considerable delay until it becomes available in South Africa.

ABSTRACTS

L. H. Layman. *Clinical Studies of Pentaquine, a Newer Antimalarial Agent.* (*Journal Kentucky State Med. Assoc.*, July 1950, p. 305.)

The author treated 23 veterans who had contracted vivax malaria in the Pacific area with 60 mg. pentaquine base and 2 g. quinine daily, for 14 days: no case of proven recurrence occurred among the patients treated by this regimen.

He is of the opinion that the pentaquine-quinine routine of therapy is curative in a high percentage of cases, and that under carefully supervised conditions the toxicity of this therapy does not contraindicate its use.

Treatment of Malaria in Ex-Servicemen. (Lancet, 1952, **2**, 288.)

From many tropical parts of the world ex-servicemen return to Great Britain. As suppressive treatment is stopped after arrival in that country, a certain number of the men experience malarial attacks in their home country where the medical profession is not so acutely aware of the necessity of accurate and thorough treatment.

The Editor of *The Lancet*, therefore, published a summary of the methods of malaria treatment now used in the Army, according to information put at the disposal of *The Lancet* by the Director-General of Army Medical Services.

The following course is most likely to cure benign tertian malaria and lessen the chance of relapses:

Quinine (bi)hydrochloride 650 mg. with 10 mg. of pamaquin, three times a day, for 14 days. (Reviewer's note: Half the quinine dosage mentioned above would be sufficient.)

Malignant tertian malaria, malaria without pernicious manifestations may be treated with chloroquine, 16 tablets of 150 mg. base, in 5 days.

Severe or pernicious symptoms necessitate the immediate administration of intravenous quinine.

Mepacrine is still used in the routine treatment of uncomplicated malignant tertian malaria, as an alternative to quinine or chloroquine.

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EDITORIAL

VITAMIN E: WHAT IT CAN AND WHAT IT CAN'T DO

Vitamin E occurs in nature as a complex of 4 closely related tocopherols, chiefly in plant materials, and found in animal tissues in relatively small amounts. Since 1921 the vitamin has been known to be an essential item in the diet of the rat to ensure the normal course of pregnancy in the female and reproductive activity in the male. The significance of the vitamin in human nutrition has not been established. There is agreement that it is of no value in human sterility, and its use in habitual abortion is doubtful.[1]

The observation that rats receiving a diet deficient in the vitamin develop a dystrophy and paralysis of voluntary muscle led to therapeutic trials with the vitamin in degenerative diseases such as amyotrophic lateral sclerosis and muscular dystrophy. It is not regarded as being of any value in such conditions.[2, 3]

The use of vitamin E (and especially the alpha-tocopherol component of the natural vitamin) in the treatment of cardiovascular disorders was claimed by certain investigators to produce dramatic results. Lay dissemination gave considerable publicity to the phenomenal therapeutic results claimed. The way in which the public was informed about vitamin E therapy of heart disease was strongly criticized in an Editorial of the *Journal of the American Medical Association*.[4] Critical well-controlled studies have failed to confirm the alleged benefits of the vitamin in pain of cardiac origin, post-coronary conditions and arteriosclerosis. Many investigators[5-8] have been unable to substantiate the therapeutic claims for vitamin E in various types of heart disease. The unbiased factual evidence of disinterested investigators has disproved the claims of those whose deductions are based on testimonial evidence. In one discussion[9] it was stated that the benefit from vitamin E in coronary artery disease, hypertension or rheumatic heart disease could be attributed to ceremonial therapy.

The beneficial results claimed for vitamin E in Dupuytren's contracture[10] have still to be proved.

1. Clayton (1949): Pract., **163,** 558.
2. Lubin (1942): Arch. Int. Med., **69,** 836.
3. Youmans (1950): J. Amer. Med. Assoc., **144,** 45.
4. Editorial (1946): J. Amer. Med. Assoc., **131,** 746.
5. Makinson *et al.* (1948): Lancet, **1,** 102.
6. Donegan *et al.* (1949): Amer. J. Med. Sci., **217,** 294.
7. Ravin and Katz (1949): New Eng. J. Med., **240,** 331.
8. Eisen and Gross (1949): N.Y. State J. Med., **49,** 2422.
9. Discussion (1948): J. Amer. Med Assoc., **136,** 1031.
10. Thomson (1941): Brit. Med. J., **2,** 1382.

VAN DIE REDAKSIE

VITAMINE E: WAT DIT KAN EN NIE KAN DOEN NIE

Vitamine E kom in die natuur, veral in plantestowwe, as 'n samestelling van 4 nou-verwante tokoferole, voor. Dit word in betreklike klein hoeveelhede in diereweefsels gevind. Sedert 1921 was dit bekend dat die vitamine 'n belangrike item in die dieet van die rot is, om by die wyfie die normale verloop van swangerskap, en reproduktiewe aktiwiteit by die mannetjie, te verseker. Die belangrikheid van die vitamine in menslike voeding is nog nie bepaal nie. Dit word ooreengekom dat dit by menslike onvrugbaarheid van geen waarde is nie, en die gebruik daarvan by gewoonte-afdrywing is twyfelagtig.[1]

Die waarneming dat rotte, wat op 'n dieet is waarin daar 'n tekort aan die vitamine is, 'n kwyning en verlamming van die willekeurige spiersisteem ontwikkel, het gelei tot terapeutiese proefnemings met die vitamine by ontaardingsiektes soos amiotrofiese laterale sklerose en spierkwyning. Dit word nie as van enige waarde by sulke toestande beskou nie.[2,3]

Die gebruik van vitamine E (en veral die alfa-tokoferoolbestanddeel van die natuurlike vitamine) by die behandeling van hartbloedvatgebreke het na bewering van sommige ondersoekers dramatiese resultate opgelewer. Lekeverspreiding het aansienlike publisiteit aan die fenomenale terapeutiese resultate wat beweer was, gegee. Die wyse waarop die publiek ingelig was omtrent vitamine E-terapie van hartkwale was in 'n inleidingsartikel van die *Journal of the American Medical Association*[4] sterk gekritiseer. Kritiese, goedbeheerde studies het nie daarin geslaag om die beweerde voordele van die vitamine by pyn wat die hart veroorsaak word, na-kroontoestande en slagaarverharding te bevestig nie. Baie ondersoekers[5-8] was nie in staat om die terapeutiese bewerings omtrent vitamine E by verskeie tipes van hartkwale te bewys nie. Die onbevooroordeelde feite-getuienis van onpartydige ondersoekers het die bewerings weerlê van diegene wie se gevolgtrekkings op getuigskrifgetuienis gebaseer is. In een bespreking[9] was dit gesê dat die voordeel van vitamine E by kroonaarsiektes, drukverhoging of rumatiekhartkwaal, aan seremoniële terapie toegeskryf kan word.

Die heilsame resultate wat daar vir vitamine E in Dupuytren se geskrifte[10] geëis word moet nog bewys word. Of die vitamine vir oormatige bloeding met die

1. Clayton (1949): Pract. **163,** 558.
2. Lubin (1942): Arch. Int. Med., **69,** 836.
3. Youmans (1950): J. Amer. Med. Assoc., **144,** 45.
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9. *Discussion* (1948): J. Amer. Med. Assoc., **136,** 1031.
10. Thomson (1941): Brit. Med. J., **2,** 1382.

Whether the vitamin is of value for menopausal flushing, sweating and insomnia and for intermittent claudication [11] is also *sub judice*.

At an *International Conference on Vitamin E* held in New York many contributions to our knowledge of the mode of action of the vitamin in experimental animals were presented, but the efficacy of therapy with this vitamin remained undecided.[12] In a recent Editorial the conclusion was reached that in spite of all the claims made for vitamin E therapy in a large number and wide variety of diseases, the results have been disappointing and not well substantiated.[13]

11. Ratcliffe (1949): Lancet, **2**, 1128.
12. Editorial (1949): Brit. Med. J., **1**, 951.
13. Editorial (1952): Brit. Med. J., 20 December.

menopause, sweet, slapeloosheid en vir onderbroke bloedvatvernouingskreupelheid [11] van waarde is, is ook *sub judice*.

Op 'n Internasionale Konferensie Oor Vitamine E wat in New York gehou is, was baie bydraes gelewer tot ons kennis oor die wyse waarop die vitamine in proefdiere ageer maar die doeltreffendheid van terapie met hierdie vitamine het onbeslis gebly.[12] In 'n onlangse inleidingsartikel was daar tot die gevolgtrekking geraak dat ten spyte van al die bewerings wat daar omtrent vitamine E-terapie by 'n groot getal en verskeidenheid van siektes gemaak word, die resultate teleurstellend en nie goed bewys is nie.[13]

11. Ratcliffe (1949); Lancet, **2**, 1128.
12. *Editorial* (1949): Brit. Med. J., **1**, 951.
13. *Editorial* (1952): Brit. Med. J., 20 Desember.

STUDY OF MALIGNANT NEOPLASTIC DISEASE IN PRIMITIVE COMMUNITIES

WITH SPECIAL REFERENCE TO SOUTH AFRICA

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Although epidemiological studies on infectious diseases have been of great use in preventive medicine, it is insufficiently appreciated that vital statistics on cancer may be of equal value in indicating aetiological factors in this disease.[1]

At a conference on Cancer Demography held in Oxford in 1950, the problem of cancer among backward peoples received special attention.[2] It was clear that relatively little information was available on the incidence of cancer in many primitive peoples, but that such statistics would be valuable in studying the influence of environment on carcinogenesis. The difficulties and errors inherent in statistical studies among such communities were discussed, and the most satisfactory methods of presenting cancer data outlined.

In Europe and America the only cancer statistics available until recently have been the mortality rates calculated from death certificates. As far back as 1844 Rigoni Stern, using death certificates issued in Verona, demonstrated the relationship between mammary and cervical cancer in females, and the accuracy of his conclusions has been confirmed recently by Clemmesen.[3] Mortality rates are still useful in types of malignant disease where the response to treatment is poor. To-day, however, the successful treatment of carcinoma of the skin or of the cervix uteri has advanced considerably. Whereas a stage IV cervical cancer would probably still appear in mortality tables, an adequately treated stage I is unlikely to do so, although the aetiological factor in each may be similar. In Atlanta, in 1947, cancer of the skin accounted for 31% of the total tumours diagnosed in males, but only 5% of all deaths from cancer.[4] It is therefore obvious that registration to-day must include all cases of cancer observed in a community, as well as cancer deaths.[1] In Denmark, e.g. all cases of cancer receiving medical care are registered, so that excellent statistics are now available.[5] Clearly, however, such a register implies a medical service organized to a degree unknown in primitive communities.

THE PROBLEM IN PRIMITIVE COMMUNITIES

The difficulties encountered in demographic studies among Western races are magnified in primitive communties, and certain additional handicaps peculiar to local conditions must also be considered.

The registration of cancer cases in such a community is difficult outside hospital practice, and the hospitals for practical purposes provide the majority of cancer cases. Unfortunately, it is usually unknown how representative of the general population are the patients who attend hospital. The effect of social, economic, educational and age factors on hospital attendance is often undetermined as due to custom, fear or superstition the patient may prefer treatment by a witch doctor or Native herbalist. In the urban locations of South Africa, the senior member of the household often determines the attitude to western medicine and the remaining members follow suit. It is thus necessary to establish whether a significant proportion of the population is unwilling to attend hospital and to modify the census figures accordingly.

In primitive communities hospital facilities, especially laboratory, are frequently unsatisfactory due to inadequate financial resources, and overcrowding is frequent with resultant difficulties in diagnosis. Further, lesions such as glandular tuberculosis, tuberculomata, liver abscess and amoebomata increase the difficulties of cancer diagnosis.

Often the number of patients in the cancer age group attending the hospital is small, and those suffering from malnutrition and bacterial diseases are numerous.[6, 7] The hospital medical officer, thus, will see only a few cancer cases in a large number of admissions, and obtain an inaccurate impression of its absolute incidence. This fact may unconsciously predispose him against the diagnosis of cancer. There is also a tendency on clinical grounds to diagnose with undue frequency those tumours of the inaccessible sites which are generally believed to be common, such as malignant hepatoma in this country, and to ignore those which are considered rare. Histological confirmation is thus essential and even more desirable than in a corresponding European hospital.

The calculation of a mortality or morbidity rate in a Native community is very difficult, if not impossible, when census figures are non-existent or of doubtful value. It is believed, e.g. that census returns may be falsified deliberately by a householder if illegal entrants into the township are living in his house. In Orlando Township, e.g. the population was stated by the Government Census (1946) to be 52,066, whereas the population in 1948 was estimated at 97,155 in the Johannesburg Non-European Affairs Department's report.[8] Using a random sample, Eberhardt calculated that in 1948 the population was in the region of 65,000, the likely limits being 53,950 to 76,050.[8] Where, then, doubts on the accuracy of the census exist, it should be checked by careful sampling by trained social workers. Where no census has been carried out, sampling is the only method available for determining the number and composition of the population at risk. In regard to the age composition of the population a further difficulty exists as many Natives do not know their age. These must then be estimated by correlation with historical events. It is thus preferable in this country, in my opinion, to present age groups in decades rather than in the more desirable 5-year periods.

Often a hospital may drain patients from regions outside the local area under survey. These patients may give local addresses due to regulations governing hospital admission. Unless such patients, the number of whom may be considerable, are eliminated by careful checking by social workers, they may form a major source of error.

It is clear, therefore, that in primitive communities the accuracy obtainable in Europe and America is impossible, and that careful estimates are the most that can be expected, after allowing for the variations described above, each locality providing its own problems for which allowance must be made.

ORGANIZATION OF CANCER SURVEY

Briefly, it is suggested that in initiating a cancer survey the following points should receive special attention.

(a) The method of registration of cancers should be so designed that as few cases as possible escape notification. It is better to register a cancer twice than miss a case, since duplicate registrations can be dealt with at the Survey Centre. Payment of a token fee for registration may be necessary. Every attempt should be made to interest the medical staff of the hospitals on whom the success of the survey ultimately depends.

(b) Histological and post-mortem confirmation should be done wherever possible. Initially, in a cancer survey among a race where the incidence of malignant disease is unknown, only cases proved histologically should be accepted, to avoid diagnostic error. The results may then be published as the percentage of cancers diagnosed clinically for each anatomical region.

(c) The address and period of urbanization of each patient must be determined.

(d) Where units exist for the treatment of specific neoplasms, cases must be excluded who have been forwarded for special treatment from a hospital outside the area under surveyance.

(e) Rural Native hospitals are often small and the number of cases too few for statistical use. It may thus be advisable to confine attention initially to an urban area, and later see if the rural pattern is markedly different. Unfortunately, changes such as detribalization, alterations in diet, customs and habits are most marked in the towns.

(f) When the accuracy of the available census figures is in doubt they must be confirmed by random sampling by social workers. These should be Natives so that confidence may be established most easily between the householder and the social worker. This social survey will include information on the age, sex, period of urbanization and the general attitude to Western medicine.

INTERIM PROJECTS

It is clearly impossible to develop full-scale cancer surveys in all areas on the lines suggested above. If, however, a general hospital with good diagnostic facilities is available in a community, some information on the pattern of cancer can be obtained by studying the proportional frequency of certain cancers.

It has been demonstrated previously that it is not possible to compare the frequency of cancer in 2 races by estimation of the number of cancers per hospital admission for each race.[6, 7] Such a comparison becomes even more inaccurate where the age composition of the races is very different.

The frequency of a specific cancer relative to all cancers is often an unsatisfactory figure, as it is unduly influenced by age grouping and by accuracy of diagnosis. In Denmark the maximum incidence of carcinoma of the cervix uteri is in the fifth decade, whereas the incidence of carcinoma of the breast increases with age. Thus a population with relatively few people in the older age groups would show an unduly high percentage of the former. Further, the degree of diagnostic accuracy between cancers of accessible and inaccessible sites varies considerably from hospital to hospital. It is legitimate, however, to compare the relative distribution of a cancer in a specific anatomical region, provided that the age distribution and diagnostic accuracy is comparable for each cancer. This will not give the absolute incidence of any tumour, but is of value in demonstrating a different frequency distribution in a particular part of the body, such as is shown below for carcinoma of the neck and body of the uterus in Bantu and Europeans.

In collecting cancer data from a hospital, even for the study of proportional rates, all the precautions described above for hospital patients should be taken. Further, if possible, the composition of the hospital

population should be studied and compared with that of the general population to see how representative it may be.

If these relatively simple points are conceded, collection of figures from scattered hospitals may be of some value in establishing the distribution of a cancer in various anatomical sites, and in demonstrating future lines of more profitable survey and research.

THE PROBLEM IN SOUTH AFRICA

In South Africa the presence of several ethnological groups living in widely different environments, provides excellent material for throwing light on some problems of cancer demography. Unfortunately, vital statistics for cancer, even in the European, are inadequate and no figures at all are available for the non-European races.

In time it is probable that adequate cancer statistics for the European will become available from Government sources. There is, however, less urgency from a scientific point of view in obtaining accurate figures for this section of the community as the mode of life is not changing very rapidly, and the information available suggests that the incidence of cancer here does not differ materially from that of other European races, apart from the well-known effects of actinic rays on cancer of the skin.

For the Bantu the position is very different. Here we have a relatively pure negroid race, formerly leading a primitive pastoral mode of life, which is now becoming urbanized and falling under the influence of Western civilization with consequent loss of tribal and dietetic customs. The majority of urban Bantu have not spent their whole life in the city locations, but in a short time the majority will have been born and bred there. Some probably retain their old customs and dietetic habits for a period and in general, even to-day, there are still marked dietetic and economic differences between Bantu and European. In addition to environment, abnormalities in metabolism and hormone balance have been postulated to be frequent in the African which are rare in the European.[9, 10] These are probably of environmental rather than genetic origin. Now, if the abnormal incidence of a specific malignant tumour depends on these factors, changes in environment may alter this incidence. Unfortunately, proof of such an altered incidence and its correlation with other factors, would be impossible if cancer statistics prior to environmetanl changes were unavailable. However, as noted, changes are occurring rapidly in the Bantu way of life and it is probable that when conditions are such that adequate Public Health statistics are available, the over-all environmental picture may have so altered that aetiological factors of to-day may be operative no longer.

At present, at the South African Institute for Medical Research, a cancer survey is being organized on the lines already indicated under the auspices and with the assistance of the National Cancer Institute of America. It is hoped that this survey may discover some of the problems relating to methodology of surveys and the frequency of cancer in the urban Bantu.

PRELIMINARY WORK AT BARAGWANATH NON-EUROPEAN HOSPITAL

This work has been published in more detail elsewhere,[6, 7] but to illustrate how proportional hospital statistics can be of some value in South Africa, certain points are reiterated.

This hospital deals with a predominantly urban Bantu population. It has excellent facilities for histological, biochemical and radiological diagnosis. The degree of histological confirmation in cancer cases is very high due to the full co-operation of the superintendent and staff, and in this respect is equal to or greater than that in many European hospitals.

In 1950 the hospital population was sampled and it was found that only 17% of the total admissions (excluding children) were over 45 years (i.e. in the cancer age group), as compared with 47% in the Johannesburg European General Hospital. In a recent survey at Orlando Township, Eberhardt found only 10% of the population was over 50 years, so the low number of hospital patients in this age group appears to reflect the true position in the general population.[8] In Europeans this age group supplies 84% of total carcinomata.[11] Further, 36% of the male admissions were due to traumatic injury; and the incidence of nutritional, bacterial and other non-neoplastic diseases was very high. It was clear, therefore, that one could not, by comparing the number of cancers per admission at this hospital with the number seen at a European hospital, establish the relative cancer incidence in the general populations. This can only be done when the admissions are analysed not only for age and sex, but also for spectrum of disease. Further, the representativeness of the hospital population must be known.

Willis[11] demonstrated that statistics from necropsy material are often unreliable for accessible forms of cancer. This was also true for Baragwanath, the position being further complicated as patients with incurable lesions are often sent home because of the shortage of beds. From these considerations it was concluded that no significant information was available from necropsy studies alone, and that every case of cancer must be notified.

After the examination of a small series of consecutive cancer admissions, it can be stated that every type of cancer can occur in the Bantu. Further, the percentage of malignant neoplasms in each age group increases steadily with age, as in Europeans. It is generally believed that sarcoma occurs more frequently in Bantu than in Europeans. As, however, the ratio of carcinomata to sarcomata increases with age in both peoples, the small number of Bantu patients in the older age group may explain the low ratio.

By comparing the cancer incidence of various tumours in specific anatomical sites, we have already obtained presumptive evidence for certain differences between cancer in the European and Bantu races. For example, basal cell carcinomata, in contrast to squamous carcinomata, form a very small proportion of skin cancers in the Bantu. Further, unlike Europeans, the majority of the latter are found on the trunk and limbs, as has also been reported in the American Negro and from North Africa. Kaposi's haemangiosarcoma is found unduly frequently. The ratio of gastric to oesophageal cancer is low in comparison to European figures. If the ratio was similar to that found in Denmark, approximately 15 times more gastric cancers should have been seen than were actually observed. I have found no local or selective factor to explain this

ratio and my observations on cancer of the large bowel are similar.

Again, cancer of the liver forms approximately a third of the number of cancers involving the gastro-intestinal tract, and 5% of all malignant tumours seen. This is a higher ratio than that observed in Europeans, but is not as high as that reported by Berman.[12]

Uterine cancer is by far the commonest form of neoplasia observed in females. Cancer of the cervix alone forms nearly 50% of the total tumours. In Denmark the ratio of uterine body to cervical cancer is approximately 1 : 3; in my series it was nearly 1 : 40. As this ratio cannot be explained entirely by age distribution and diagnostic differences, it suggests either that cancer of the cervix is very common or cancer of the uterine body is rare. In Europeans an increased incidence of cervical cancer is found in the poorer social classes, associated with early marriage and many pregnancies. We know that both factors are prevalent in the Native locations. Breast cancer is the second most common tumour in the Bantu, but it is probable that the proportion would be greater if there were more females in the older age groups in the series examined.

Only the more interesting points which arose in the initial investigation have been discussed, but they are of sufficient interest to show the value of local studies in cancer demography in the Union.

SUMMARY

Some of the difficulties inherent in studying the incidence of cancer among primitive peoples are outlined. Methods are described which will probably assess some of these difficulties. It is unlikely that very accurate statistics on cancer can be obtained in the Bantu, but only a good estimate. It is hoped to obtain such an estimate by a survey organized by the South African Institute for Medical Research with assistance from the National Cancer Institute of America. The use of proportional rates is discussed and their strict limitation emphasized. Information obtained by the use of proportional rates at Baragwanath non-European Hospital is summarized.

The unique position of South Africa for cancer demographic studies is stressed.

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CONGENITAL POLYCYSTIC DISEASE OF THE KIDNEYS IN INFANCY

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Polycystic disease of the kidneys is a rare but well recognized condition in infancy. Sears[1] recorded a series of 11 cases occurring in the foetus and in infancy; of these, 4 were males and 2 were females; in the remaining 5, the sex was not mentioned. All these cases had bilateral involvement of the kidneys, and in 4 the liver was also affected.

Generally speaking, polycystic kidney disease is usually seen in 2 age groups—early life or over the age of 40 years.

Widely divergent theories have been suggested to explain the aetiology of this disease. These suggestions vary from that of Brigidi and Severi,[2] that the disease represents a true neoplastic process, to that of Kampmeier,[3] and McKenna and Kampmeier,[4] who, by careful serial sectioning of foetal kidneys, suggested that the defect was a failure of atrophy of the second to fourth generation uriniferous tubules; these joined with similar generation collecting tubules and later separated and remained for about a month as cystic tubules. These later atrophied or united with other generations of collecting tubules. A failure to atrophy of these uriniferous tubules might lead to polycystic kidneys. Bagg[4] has produced polycystic kidneys in mice experimentally by irradiation. He produced congenital abnormalities, including polycystic kidneys, in some members of the third and fourth generations. Cairns[5] certainly showed the familial tendency of the disease.

Rall and Odel[6] recorded the autopsy findings in 46 cases of this condition, 15 of which were associated with polycystic livers and 4 had associated polycystic disease of the pancreas; 13% of this series showed unilateral disease of the kidney. Nine of these 46 cases were under one year of age, and 32 were over 40 years. Fergusson observed that investigation of family records revealed no proved

examples of adult and neonatal cases occurring in the same family; he indicated that, although the adult disease appears to be inherited as a Mendelian dominant, the neo-natal form is probably inherited as a recessive characteristic.

Parrott, Joseph and Nesbit [7] reported a case of polycystic disease of the kidneys in an infant in which they demonstrated left ventricular hypertrophy by electrocardiography, confirmed at autopsy. They stress the importance of a complete cardiac evaluation in these cases, to help in assessing the prognosis. These authors reviewed the recent literature and found records of 51 cases of this disease in stillborn infants, and in infants under 19 months of age.

CASE REPORT

R. P., a female infant aged 3 months, was admitted with a history of having vomited since she was 10 days old. She was the fifth child in the family. The mother's pregnancy was normal, but the infant was delivered by caesarean section because of the presence of a uterine fibroid. The birth weight was 6 lb. 2 oz. There was no jaundice or cyanosis. She was breast fed for 3 months. Ten days after birth the infant started vomiting. This occurred soon after a feed, and it was projectile at times. The stools were normal and there was never any diarrhoea or constipation. The infant has continued to have bouts of vomiting since then.

Examination. A poorly nourished, pale infant, weight 9 lb. 7 oz. Temperature, 102.3°F. The anterior fontanelle was small. Circumference of the head was 14¼ inches.

There were dilated veins present over the head. The palms of both hands showed some erythema. The eardrums were healthy. The pupils were equal and reacted to light. The fundi were normal. The mouth and throat were also normal. Examination of the respiratory system did not reveal any abnormality.

Blood pressure in the right arm was 240/140 mm. Hg.

Examination of the heart revealed no clinical abnormality. The anterior abdominal wall had numerous dilated veins over it, filling from below upwards. The abdomen was distended. Palpation revealed large firm irregular masses in both loins. The spleen was not felt. The liver was palpable 2 fingers below the costal margin, and it had a markedly irregular edge.

At the age of 5 months she developed a left facial paralysis of the lower motor neurone type. No cause could be found for this and it resolved completely.

Investigations: *Blood Count.* Haemoglobin, 10.8 gm.%;
Colour Index, 0.9;
Erythrocytes per c.mm. 3,830,000;
Leucocytes per c.mm. 16,600;
Neutrophils, 22.5%;
Monocytes, 7%;
Lymphocytes, 67.5%;
Eosinophils, 3%.

The red cells showed some anisocytosis. There was a slight absolute lymphocytosis present.

Urine. Albumin—present. Sugar—Absent.

Microscopy showed nothing of significance. Re-examination of the urine always showed the presence of albumin.

Liver Function Tests: Thymol Turbidity Test: 6.5 units. Thymol Flocculation Test: Four Plus. Positive. Takata-Ara reaction (Ucko's modification): Negative. 18.2 units alkaline phosphatase (King-Armstrong).

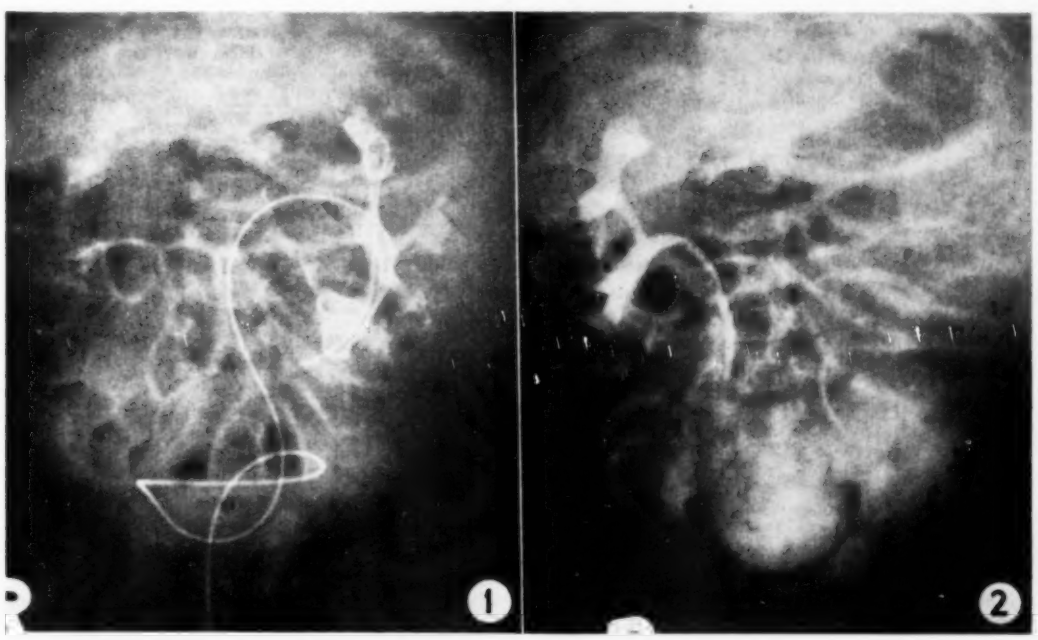

Fig. 1. Retrograde pyelogram, left side, showing hydronephrosis with spidery elongation of the calyces and some pyelorenal backflow.
Fig. 2. Retrograde pyelogram, right side, demonstrating an appearance suggesting 2 calyx systems, the superior one being pushed upwards by the polycystic kidney.

Cerebro-Spinal Fluid. Nothing abnormal was found in the cell count or on chemical analysis.

Modified Ide Test: Negative.

Blood Urea: 57 mg. per 100 ml.

This rose to values of 61 and 88 mg. per 100 ml. and finally to a higher figure as will be noted later.

Fasting Blood Sugar: 70 mg. per 100 ml.

Radiological Examination: The skull and long bones were normal. X-ray of the chest did not reveal any abnormality. The heart did not appear enlarged. Fluoroscopy did not show any chamber enlargement.

Intravenous Pyelogram: Injection of 15 c.c. of dye showed the dye in the bladder after 15 and 25 minutes, indicating that the kidneys had secreted and excreted. The kidneys and pelvic outline could not be made out, owing to the presence of intestinal gas.

Retrograde Pyelography (Mr. W. Widrich).

Left Side. A very large kidney was seen on this side. There was a moderate degree of hydronephrosis present with spidery elongation of the calyces, and also some pyelorenal backflow (Fig. 1).

Right Side. Two calyx systems were seen on filling this side with dye. This appeared to be due to the superior system being pushed upwards by a possible polycystic kidney. The calyces showed elongation with a moderate degree of hydronephrosis (Fig. 2).

This examination suggested the presence of bilateral polycystic disease of the kidneys.

Electrocardiogram. This was essentially normal. The position of the heart was vertical and there was no evidence of any left ventricular hypertrophy.

Course and Progress. The child's general condition improved. Operation and exposure of the left-sided mass (Mr. J. Lannon) confirmed the presence of a large polycystic kidney. The pronounced hypertension remained constant throughout the period of hospitalization. The child was discharged from hospital, but after 5 months her condition deteriorated and she was again hospitalized.

Her blood urea level rose to 110 mg. per 100 ml. and her blood count at this stage was:

Haemoglobin, 6.1 gm.%;
Erythrocytes per c.mm., 2,460,000;
Leucocytes per c.mm., 16,600;
Neutrophils, 20.5%;
Monocytes, 5.5%;
Lymphocytes, 73%;
Eosinophils, 1%.

The blood pressure remained at the extremely elevated level of 240/140 mm. Hg.

She died 9 months after first coming under observation. Permission for autopsy was withheld.

Discussion. This infant had bilateral congenital polycystic disease of the kidneys. She had a very pronounced hypertension and a rising blood urea. There was evidence of portal obstruction, and this, with the enlarged irregular firm liver and impaired liver function tests, suggested the presence of polycystic disease of the liver. There was no evidence of any familial occurrence of the disease. Retrograde pyelography indicated the diagnosis, which was confirmed by operation.

Summary. A case of bilateral congenital polycystic disease of the kidneys, with a probable polycystic liver, is reported in a female infant 3 months of age. The child died at the age of a year. This patient had large bilateral palpable masses and marked hypertension. Retrograde pyelography indicated the spidery elongation of the calyces with very large kidneys. The literature is reviewed briefly.

The authors wish to thank Dr. K. F. Mills, Medical Superintendent, for permission to publish this case. They are also indebted to Mr. W. Widrich and Mr. J. Lannon; to Dr. Seymour Heymann, Head of the Department of Paediatrics, University of the Witwatersrand, for advice and encouragement; and to the X-ray Department, Transvaal Memorial Hospital for Children and Krugersdorp Hospital for radiological services.

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AMYOPLASIA CONGENITA

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Amyoplasia congenita is a rare congenital condition characterized by underdevelopment or absence of muscles, partial fixation of one or more joints and certain other abnormalities.

The disease has been described under the name of arthrogryposis multiplex congenita,[1] amyoplasia congenita,[2] multiple congenital articular rigidities[3] and congenital arthromyodysplasia.[4] Amyoplasia congenita, the name favoured by Sheldon, is the one most commonly used at the present time.

The children are usually treated for the associated deformities, the primary disease not being recognized. For this reason, we present 2 case reports, together with a short review of the literature, to draw attention to the full syndrome which has not as yet been recorded in the South African literature.

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CASE REPORTS

CASE 1

A female infant, aged 2½ months, was sent to hospital by one of us (J. R.). The parents' complaint was that the baby was not moving her arms and that the neck was very weak. She was born at full term after a normal labour, and was breast fed for a month and thereafter received an adequate artificial feed. Despite this the baby only weighed 7 lb. 4 oz. at 2½ months. Two other children in the family were said to be healthy.

The patient presented a combination of hypotonicity and rigidity. There was a marked micrognathia and a capillary naevus covered the nose and upper lip (Fig. 1).

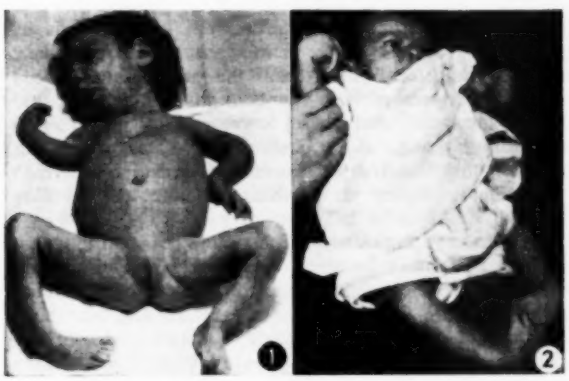

Fig. 1. (Case 1) Note abnormal position of joints and micrognathia.
Fig. 2. (Case 2) Bilateral club hands and club feet.

Musculature. Underdevelopment and hypotonicity of muscles, especially apparent in the neck and shoulders, was a striking feature. The lateral and posterior neck muscles were scarcely palpable and the deltoid and pectoral muscles were extremely deficient in bulk. In the legs the musculature was better, but the gluteal and peroneal muscles were weak. Wide divarication of the recti abdominis and bulging of the abdomen in the flanks suggested weak abdominal muscles.

Bones and Joints: Arms. There was angular deformity of both upper arms. Extension at the elbows was not possible beyond a right angle, while flexion was arrested at 45°. The right wrist was semi-flexed and could only be extended to the point where the hand was in a straight line with the forearm. The left wrist, while held in a position of extension, could be moved fully in both directions. The long, tapering fingers were noteworthy. These were only slightly flexed but could be neither fully flexed nor fully extended. The thumb and fifth finger of each hand were opposed.

Legs. Attempted extension of the hips failed by about 20° to bring the backs of the thighs on to the bed, but there was a full range of other movements, including abduction. The knee joints appeared normal and the patellae were present.

There was a fairly severe degree of talipes of the right foot and a metatarsal varus of the left. The joints of the jaw and spine were normal.

As a result of these deformities there was little movement on the part of the child with the exception of the eyes and the muscles of respiration.

Special Investigations: X-rays. There were 2 united fractures of the right humerus, one of the neck and another of the shaft with angulation, while the left humerus was also fractured at its upper end. This also had united.

In the legs there was an ossification centre for the head of the right femur but this was not present on the left side and was suggestive of a congenital dislocation of the hip on this side.

Electrical Reactions. There was no response of the deltoid or pectoral muscles to either faradism or galvanism, while the trapezii gave only weak contractions. The other muscles could not be tested satisfactorily.

Progress in Hospital. Some improvement of the talipes and slight increase in muscular movements resulted from treatment. Two episodes of pneumonia occurred while the baby was in hospital and on both occasions she responded to antibiotic therapy.

CASE 2

An 18-day-old boy, seen by one of us (L.S.), was admitted while the first patient was still in hospital. This was a much more vigorous baby. He was referred by the private practitioner, Dr. B. M. Nel of George, because of clubbed hands and feet and congenital dislocation of both hips.

He was the first child of young parents and weighed 7 lb. at birth. The obstetric history as supplied by Dr. Nel is of interest. At 33 weeks the foetus was in the breech position and ordinary attempts at turning were unsuccessful. Version was, however, achieved under anaesthesia though with considerable difficulty, and the baby was later delivered as a vertex presentation.

Musculature. The muscles of the neck, back and abdomen were well developed. In the arms all muscles seemed rather weak, particularly the extensors of the wrists and fingers. The gluteal and quadriceps muscles of the left leg were poorly developed as were the hamstrings of the right leg. The peronei and calf muscles were defective on both sides.

Bones and Joints. The child lay in bed with the left arm adducted and extended at the elbow, while the right elbow was fully flexed. Shoulder movements were normal on both sides, but there were bilateral club-hands.

The left hip was fully flexed, abducted and externally rotated. The right hip was almost straight and was externally rotated and slightly flexed. The left knee was fully flexed and the right one fully extended. A severe degree of bilateral calcaneo-varus completed the rather pathetic picture (Fig. 2).

Passive Movements: Legs. About 10° of adduction and extension were the only movements possible at the left hip, and in the case of the right hip about 30° of adduction and abduction, although here full flexion was possible. Extension could only be obtained to the extent of bringing the leg into a straight line with the body. The fully extended right knee could be flexed to 90° and the fully flexed left knee extended to 160°.

Arms. The shoulder joints could be abducted to 90°, the scapulae then coming into play, while the flexed right forearm could be extended as far as 135°. Flexion of the fully extended left elbow was stopped at 45°. Both the wrists were in marked flexion, though they could be extended almost to the straight position. The fingers which were long, as in the other case, were flexed into the palm, but could be completely extended.

Special Investigations: X-rays. The only radiological bony abnormality in this case was a congenital dislocation of the right hip.

Electrical Reactions. There was no response to faradism in the biceps, triceps, gluteal or rectus femoris muscles on the left side, while on the right side these muscles responded normally with the exception of the gluteals. Galvanism gave sluggish response in the left biceps and triceps and normal reaction of the corresponding muscles on the right side.

Progress in Hospital. Treatment somewhat improved the calcaneo-varus. As this was a much more vigorous baby than the first one, with better movements, intercurrent infection seemed much less probable.

REVIEW OF THE LITERATURE

In a recent extensive review of this condition, James [4] collected descriptions of over 200 cases, the earliest being attributed to Otto in 1841. Sven Brandt [5] also points out that the disease was known to German authors in the earlier years of the present century.

Rocher [6] gave the first full account in a French journal in 1913, and 10 years later Stern,[1] in the United States, described the first cases to be written up in English. Of recent years there has been a number of articles dealing with the clinical and pathological aspects in both the British and the American literature.

The Joint Defects. In Otto's case all the joints were fixed in flexion, while in an early French case, they were in full extension, the baby looking like a 'wooden doll'. All degrees of deformity between these two extremes may occur and Ellis [7] makes the statement that while individual joints may be fixed in extension, generalized flexion deformities are the more common.

Sheldon [2] pointed out that there may be only one joint affected, but that if more than one is involved, the deformities are usually bilateral and symmetrical. The condition appeared to him to be like a fibrous ankylosis, but as there was no evidence of previous inflammation he believed the joint defects to be developmental in origin.

Stern's four cases [1] showed multiple deformities, all joints except those of the spine and jaw being affected. Even the latter may not be spared as in the case described by Ealing.[8] Here a rigid temporomandibular joint in a baby caused considerable difficulty in feeding.

The Muscle Defects. A striking feature of the condition, according to Sheldon, is the incomplete or non-development of certain muscle groups, affecting not only the muscles of the limbs, but even those of the neck and trunk. In his case the affected muscles showed poor response to electrical stimulation and revealed muscular underdevelopment in X-rays taken to show up the soft tissues. Moncrieff and Wiles [9] and Gilmour [10] report similar findings in their cases.

As a result of the muscular weakness there is very little movement, the baby usually remaining in whatever position it is placed.

Associated Defects. Defects frequently found in association with amyoplasia congenita are talipes, congenital dislocation of the hip and rudimentary or absent patellae. Stern [1] stresses compression of the hands with the fingers gathered together to a point. Other authors, such as Lewin [11] and Ealing,[8] have also drawn attention to the long clawlike fingers; while Price [12] uses the term arachnodactyly in describing the fingers in her case. In a few cases, as in one of our own, micrognathia was present.

The condition may be diagnosed *in utero.* In Sheldon's case,[2] X-ray pictures taken before birth showed the baby to be lying with the arms and legs straight and it was eventually delivered as a breech with extended arms and legs. Breech presentation is usual, but if delivery is by the vertex, fractures of the femora have been described. In a case reported by Petrides,[13] the patient, a 6-day-old girl, had fractures of both humeri and both femora, and it was suggested that these were due to intra-uterine pressure. It seems more likely in this case, as in our first one, that the fractures occurred during birth when attempting to deliver limbs which have not the mobility of those of a normal baby.

Aetiology and Pathology. The aetiology is still in doubt although the pathology appears to have been worked out fairly well. The condition does not seem to be a familial one as no more than one case in a family has ever been described.

The earliest autopsy report was by Russell Howard as far back as 1908.[14] Some of the muscles in this case were small and others almost absent, with the fibres in various stages of fatty degeneration, without increase of fibrous tissue to suggest previous inflammation. Other muscles were larger than normal, resembling those seen in cases of pseudohypertrophic muscular dystrophy. The nerve endings in muscle and the spinal and cranial nerves all appeared to be normal and although histological examination of the spinal cord was not made, Howard remarked that it would be difficult to imagine any lesion in the anterior horn cells with such unchanged peripheral nerves. The hip and knee joints could not be mobilized fully even after the muscles had been removed. There was shortening of the ligaments on the flexor aspects and the articular surfaces of the joints were abnormal in size and position.

Howard believed that the defect was in the muscular system and was either a non-development, a degeneration following inflammation, or a primary degeneration occurring before birth. It was his opinion that the defective joint formation was the result of poor foetal movements owing to weak musculature.

Dorothy Price,[12] on the other hand, thought that the primary fault lay in the nervous system. In the case she examined, there was degeneration of peripheral nerves although the anterior horn cells seemed to be normal. This lesion, she felt, was responsible for the poor musculature, the latter in turn giving rise to incomplete development of the associated joints. Removal of the muscles round the elbow joint gave an increased movement of only 5°, but she found abnormal bands of fibrous tissue

between humerus and ulna which limited flexion. On opening the joint, the articular surface of the humerus was found to be only partially developed. The flexor group of muscles around the joint was similarly underdeveloped and it was Price's view that full joint movement *in utero* could not take place owing to the lack of movement.

Brandt[5] also placed the primary lesion in the central nervous system but, unlike Price, he found degeneration of the anterior horn cells, as did Gilmour in another paper.[10]

All the above-mentioned authors believe that there is a pathological relationship between amyoplasia congenita and the Oppenheim and Werdnig Hoffmann spinal muscular atrophies, though they agree that clinically the diseases are different. Price suggested that in the spinal muscular atrophies the muscle weakness is of both flexors and extensors, leading to joints which are movable *in utero*, thus allowing the natural development of the joints.

Sheldon's view is that the condition is a developmental fault, with initial failure of development of certain muscle groups, resulting in the limitation of corresponding foetal movements. This, in turn, leads to restricted differentiation of joint structures which only develop to an extent warranted by the range of foetal movements. In his article Sheldon stated that there had been no post-mortem examinations made up to that time, being evidently unaware of Howard's report in 1908. He wrote that there was no knowledge about the state of the motor nerves to the affected muscles. The fact that a group of muscles serving a common function is affected rather than individual muscles, seemed to him to be a point in favour of the muscle condition being secondary to a primary neurone defect. On the other hand, there was no reaction of degeneration in the affected muscles, no disturbance of sensation and the nutrition of the limbs was good. The absence of RD has been noted by many authors, including Rocher, and has been used as the chief argument against the disease as being of primary neurogenic origin. James[3] has tried to reconcile the opposing views by suggesting that when the central nervous system is involved, it does not precede muscle degeneration but is coincidental with it.

Mental State. This is mentioned in 23 cases in the literature available to us. In 14 it was said to be normal and in 9 the children were of subnormal intelligence. It is probable that it is not mentioned in the majority of cases reported because many of the children die in infancy, and it is difficult to assess the mental state with certainty in these babies unable to make adequate physical response to stimuli. This was so in our first case and opinions differed whether the baby was abnormal or not. There was no doubt about the normality of the second baby.

Prognosis. Although it is sometimes said that the prognosis for life is fairly good, adult cases of the disease having been described, many of the patients die in infancy. One would imagine that the muscular enfeeblement would make these babies very liable to succumb to intercurrent infection. This would appear particularly likely in our first case, and less likely in the second.

Treatment. Orthopaedic correction of the deformities is carried out as far as is practicable, though dislocation of the hip is said not to respond well to treatment. Physiotherapy is employed in an attempt to develop the weak muscles and to increase the range of joint movement. Great care must be exercised to prevent infection and, should this occur, vigorous antibiotic treatment must be carried out without delay.

In both our cases manipulation of the feet was carried out by Mr. J. H. Louw and this was followed by the application of modified Denis Browne splints, designed to overcorrect the deformities. Active and passive movements were practised to try to increase the range of joint movement and to increase the muscle power. There was some improvement in the second case, but scarcely any change in the first, more severely affected, baby.

SUMMARY

1. Amyoplasia congenita, also known by a variety of other names, is a congenital disease. It is characterized by deformities of joints and muscles, usually accompanied by other defects also of congenital origin.

2. A typical case is presented and a suggestion made about the causation of the fractures sustained during birth. A second case, which appears to be an example of the same condition, is also reported.

3. A survey of the available literature is made to show the clinical features and pathology of the disease.

4. The mental state is considered, as is the prognosis and treatment.

5. The pathology of the joint and muscle lesions seems to be well understood and it has been suggested that there is a fairly close relationship between amyoplasia congenita and the spinal muscular atrophies of Oppenheim and Werdnig Hoffmann. Unanimous agreement has not yet been reached whether amyoplasia congenita is, in fact, primarily a disease of the nervous system rather than a primary muscular condition.

ADDENDUM

Since this report was prepared for publication both of the infants described developed pneumonia and in each case died within 48 hours of the onset of the illness.

We wish to thank Dr. Wolf Rabkin, Head of the Department of Paediatrics, for his advice and for permission to publish this report; Mr. J. H. Louw for his interest and surgical help; and Mr. G. McManus for the photographs.

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NEW PREPARATIONS AND APPLIANCES

A COLLAR FOR THE TREATMENT OF FRACTURES AND DISLOCATIONS OF THE CERVICAL SPINE

T. B. MCMURRAY, *M.B.E.*, M.CH., F.R.C.S., EDIN.
Cape Town

During the latter part of the treatment of fractures of the cervical spine, it is usually necessary for the patient to wear a supporting brace or collar, in order to immobilize the spine.

These are of various designs; most of them endeavour to keep the cervical spine in extension.

To do this, they take purchase upon the chin and the occiput, which makes the appliance extremely cumbersome and uncomfortable for the patient. If adequate purchase is taken upon the chin, the pressure employed makes it impossible for the patient to open the mouth; secondly, with male patients, the pressure over this area, within a few hours, becomes exceedingly painful owing to the fact that, as the beard grows, irritation takes place.

The writer has used this new collar (as illustrated) for a period of 3½ years, during which time he has found it to fulfil most of the requirements in immobilizing the cervical spine. It has the advantage that there is no support taken under the chin; in fact, the head and neck are controlled by means of pads placed on the occiput and on the forehead.

The collar consists of 2 parts:

i. The anterior portion, which consists of a pad moulded to the shape of the forehead, together with a second pad over the anterior and other part of the chest. These 2 are connected by means of steel rods and must be fitted accurately so as to conform with the contour of the patient's forehead and chest.

ii. The posterior half of the collar is likewise shaped, so that the upper pad cups the occiput and the lower pad is made to fit over the back just above the shoulder blades.

These 2 halves, when placed in position, are strapped together and, owing to the fact that the upper part of the chest is conical in shape, they tend to slide upwards, so producing extension of the cervical spine. They are controlled by 4 straps on either side, the principal one being at neck level. The other straps are merely to hold the appliance in position.

The advantages of this collar are:

i. There is no constriction round the neck.

ii. There is no support under the chin.

iii. When properly fitting, the neck is completely immobilized.

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MELMAC ORTHOPAEDIC COMPOSITION

Melmac Orthopaedic Composition, a melamine resin, has been developed to meet the need of the orthopaedic surgeons for a cast that is much stronger, lighter and thinner than the ordinary plaster of Paris cast. In making a cast, Melmac is dissolved in warm water—300 gm. of Melmac to 1,000 c.c. of water—and stirred to make a smooth concentrated solution, which will remain stable for many days. When ready for use, this solution is activated by the addition of 3% ammonium chloride, and ordinary plaster of Paris bandages are soaked in this solution instead of in water. No gloves are needed to protect the skin, and the plaster is applied to the patient in the usual way. The better the plaster is rubbed as it is applied, the stronger, smoother and neater the cast, which (when well rubbed) attains a marble-like appearance. When thoroughly dry, the cast is completely water-resistant and can only be cut with an electric cast cutter or, if the casts are not made too thick, by use of the ordinary cast cutter, which should be applied with a sideways twist to crack the cast.

Experience has shown that only half the normal number of plaster of Paris bandages are required with Melmac Orthopaedic Composition, thus effecting economy in both time and cost of bandages, and the resultant casts are 4 times the early strength of normal bandages within 4 hours after application, with twice the final dry strength of such bandages. Better X-ray penetration is achieved due to the thinner casts made possible by this new preparation.

Cobey reports that out of one year's trial with plaster of Paris treated with Melmac Orthopaedic Composition, which would represent approximately 700 casts, 3 possible local allergic dermatitis cases have developed, but sensitivity to adhesive tape may have been the cause and not the type of plaster.

Melmac Orthopaedic Composition is prepared by Davis & Geck Inc., New York, and packed in cans of 9.74 oz. and cartons of 3.65 lb. each including a water-soluble envelope containing the catalyst.

South African Distributors: Chas. F. Thackray (S.A.) (Pty.) Limited, P.O. Box 2726, Johannesburg and P.O. Box 816, Cape Town, from whom full details, literature and supplies may be obtained.

ASSOCIATION NEWS : VERENIGINGSNUUS

SOUTHERN TRANSVAAL BRANCH : ANNUAL GENERAL MEETING (17 FEBRUARY 1953)

Present: Dr. T. Schneider, in the Chair, and about 75 members.

Honorary Secretary's Annual Report: Dr. Cyril Adler, presented the Annual Report. The President wished his personal thanks to the Honorary Secretary to be placed on record for the amount of work he had done during the year. As one who had been an Honorary Secretary, he could assure members that the task was a difficult one.

The President also thanked Dr. Adler on behalf of the Branch. He extended thanks to the Chairman of the Contract Practice Committee, Dr. Agranat, and its Honorary Secretary, Mr. J. Wolfowitz. The Contract Practice Committee was

called upon to deal with more and more work, and its report to the Branch Council took almost half the time of the Branch Council.

Dr. L. S. Robertson moved the adoption of the Report. This was seconded by Dr. Freed and carried.

Honorary Treasurer's Annual Report: The Honorary Treasurer, Dr. L. S. Robertson, then presented his Report. He also reported on the fact that the surplus from Congress was approximately £406. The Report of the Congress Committee was not as yet available, but as soon as it was presented, the Branch Council would consider what to do with the surplus.

Investments: The Honorary Treasurer went on to propose that the Branch recommend to the Branch Council that it consider placing £1,000, being approximately half of the cash on hand at the end of 1952, on fixed deposit for 12 months. *Agreed.*

Dr. Shapiro proposed that the Branch Council consider placing the balance, viz. a further £1,000, in a current savings account at 3%.

Benevolent Fund: Dr. Robertson proposed that in view of the fact that the Branch would have a higher capitation fee and *Journal* subscription to meet in 1953, no block donation be made to the Benevolent Fund.

Dr. Donnolly proposed as an amendment that a block donation be made, the amount to be decided upon by the Branch Council.

The Honorary Secretary pointed out that an amount of £600 had already been paid into the Benevolent Fund as a result of the Congress. It might also be decided to pay the surplus funds of Congress into the Fund.

Dr. Green felt that if there were any question of increasing subscriptions of members, no donation to the Benevolent Fund should be made from Branch funds. He proposed that the matter be left in abeyance for the meantime.

Dr. Shapiro agreed.

Dr. Donnolly's amendment was put to the vote and was lost.

The President assured members that the incoming Council would do everything possible to augment the Benevolent Fund.

Chairs in Hall: Dr. Donnolly asked whether some of the surplus could not be devoted to the repairing of the chairs in the Hall. It was agreed that the Branch Council go into this question.

The Hon. Treasurer then moved the adoption of the Balance Sheet and Audited Accounts, and of his Report. This was seconded by Dr. Agranat and carried.

Declaration of the Result of the Ballot: The following were declared elected:

President: Dr. Seymour Heymann.
Vice-President: Dr. L. O. Vercueil.
Honorary Secretary: Dr. Cyril Adler.
Honorary Assistant Secretary: Mr. J. Wolfowitz.
Honorary Treasurer: Dr. L. S. Robertson.
Members of Council: Dr. A. L. Agranat, Mr. G. T. du Toit, Mr. W. Girdwood, Dr. N. R. Smuts, Dr. Rose Baranov, Dr. I. Freed, Dr. M. Peskin.

Induction of President: In inducting Dr. Seymour Heymann as President, Dr. Schneider stated there was no need to introduce him to the Branch. He had served on the Branch Council for many years, was a Member of the Federal Council and had played a part in all the affairs of the Association. In handing over the Chair he knew it would be in good hands; that under Dr. Heymann's guidance the Branch would flourish.

Dr. Heymann replied that he was deeply conscious of the honour Members had conferred on him. He felt very humble when he considered the work of illustrious Past-Presidents of the Branch. He thanked Dr. Schneider for his remarks and, before calling on the retiring President to deliver his address, he paid a tribute to Dr. Schneider for the way he had fulfilled his task during a difficult year of office. He had filled the office with grace and dignity and he hoped that Dr. Schneider would continue to give of his zeal, and work for the Association for a long time to come. He concluded his remarks: 'Well done, Teddy!'

Valedictory Address of the Retiring President, Dr. T. Schneider: '*Late Manifestations of Diabetes Mellitus.*' Dr. T. Schneider then delivered his address, illustrated by slides.

The President, in thanking Dr. Schneider for his most interesting and instructive paper, stated that it was a pity that it was a tradition that there should be no discussion on the address of the retiring President.

Cyril Adler,
Honorary Secretary.

HONORARY SECRETARY'S REPORT FOR 1952

Mr. President, Ladies and Gentlemen: I have pleasure in presenting my Report for the term of office ending January 1953. This has been a very active year in all respects.

Membership: The membership of the Branch has increased from 1,112 to 1,324 members. The increase includes 60 members who were transferred from other Branches during the year, and 198 new members. We had two recruiting drives during the year, the first was among practising non-members; the other was amongst final year students, many of whom, as a result, have joined this year as Intern Members; 56 members were transferred from the Branch during the year, and 27 became Unattached Members, but nevertheless the net gain, viz. 193, is very satisfactory. However, we are still striving towards an ultimate 100% membership, and I hope that all members will assist in this.

It is with sincere regret that we have to record the deaths of the following members:

Dr. J. I. Luyt, Standerton.
Dr. C. C. P. Anning.
Dr. E. B. Theunissen, Ermelo.
Dr. S. Sand, Florida.
Dr. Joseph J. Levin, Johannesburg.
Dr. J. K. Stielau.
Dr. Edwin Basil Brooke, Johannesburg.
Dr. W. A. Carden, Deneysville.
Dr. N. Pencharz, Johannesburg.

Branch Meetings: The following Clinical Meetings were held during the year:

12 February 1952. Address by Sir Harold Graham Hodgson, *K.C.V.O.*, F.R.C.P., F.F.R., on *Contrast Media—Their Application in Radiology.*

15 April 1952. Clinical Evening arranged by Prof. G. A. Elliott, and held at the Ronald McKenzie Block, Johannesburg Hospital.

20 May 1952. Neurological and Psychiatric Cases, presented by Members of the Staff of Tara Hospital, and held at the Hospital.

17 June 1952. Clinical Evening arranged by Prof. W. E. Underwood. Papers were presented by The Professorial Unit, Department of Surgery, University of the Witwatersrand, bringing forward the salient features of new work done by the Unit.

17 June 1952. Address by Brigadier W. H. du Plessis, *O.B.E., E.D.*, Surgeon General, on *Medical Aspects of Atomic Warfare.*

19 August, 1952. A Clinical Evening by the Staff of the Baragwanath Hospital.

21 October 1952. Talk and Film presented by Dr. A. R. Davidson, M.R.C.S., L.R.C.P., Medical Superintendent of the Westfort Institution, on *Modern Methods of the Treatment of Leprosy.*

27 January 1953. Address by Prof. Stanley Davidson, Edinburgh University, on *The Malabsorption Syndrome.*

In addition, 3 Business Meetings were held at which discussions on vital problems, such as Free Hospitalization, the proposed College of Physicians and Surgeons and the resignation of the Editor, took place.

The Branch Council has had an extremely active year, and among innumerable other matters has dealt with the following:

Contract Practice: The Contract Practice Committee is probably the most important Sub-Committee of the Council. The ever-increasing number of Benefit and Medical Aid Societies has thrown an increased burden on this Committee, while endeavours are being made to bring in the older-established Societies within the orbit of the Association, and their Constitutions into line with the existing Rules of the Association.

The Mines Benefit Society has caused some concern to this Branch in respect of certain items in its Constitution, and this matter is now at Federal Council level.

The Vanderbijl Park Medical Benefit Fund has been of the

greatest concern to this Branch since its inception, and negotiations are now being proceeded with in consultation with the Augmented Executive Committee, this Council, the Vereeniging Division and the practising doctors in the Vanderbijl Park area.

This Branch must pay tribute and thanks to the indefatigable work carried out by the Members of this Committee, and particular mention must be made of Dr. A. L. Agranat, its Chairman, and Mr. J. Wolfowitz, the Honorary Secretary. Both Dr. Agranat and Mr. Wolfowitz have given unsparingly of their time and energy on matters which are of such paramount importance to every member of the profession.

Transvaal Hospitals Ordinance: Members will have read the very disappointing news in the Press that the Draft Amending Hospitals Ordinance has been referred to a Select Committee, which will not report on its findings before August next. The Administrator has, however, promised that 60 beds will be set aside in the Johannesburg Hospital for private patients. This is, of course, a mere sop, when we realize that previously 600–800 beds were hired in nursing homes by the Province for patients who wished to retain the services of their own doctors.

This must have proved a great blow to the Augmented Executive Committee, who so ably negotiated for the amendment of the 1948 Interim Suspension Ordinance. I have no doubt, however, that the Augmented Executive Committee will continue the fight, and on behalf of the Branch I would like to thank the Chairman, Dr. L. I. Braun, and the other Members of the Augmented Executive Committee for the great deal of work they have done. Their task has been a thankless one, since they have been striving from 1948 to obtain for the profession an Ordinance which would have been fair to the profession as well as to the public. We owe them our very sincere gratitude.

Johannesburg Hospital Board: Sub-Committee: I am happy to be able to report that the Johannesburg Hospital Board invited 2 representatives of this Branch to sit on a Sub-Committee appointed by the Board, to deal with problems of mutual interest. Our representatives are Dr. T. Schneider and Dr. J. Schwartz. As a result, many difficulties such as Workmen's Compensation cases treated at the Hospital, etc., have been ventilated from the point of view of the profession, and the Branch Council feels that this Sub-Committee performs a very useful function.

South African Medical Congress 1952: The Congress held in Johannesburg in September 1952 is now past history, but certain facts are worthy of note. The previous Congress held in Johannesburg was 21 years ago.

Well over 900 members attended the Congress, this being a record attendance over all other Congresses.

The Scientific Papers were of an extremely high standard, while the highlights of the social activities were the Ball and the Banquet, at which functions the Governor-General was present.

The Scientific Exhibition, Trades Exhibition and Hobbies Section were the largest ever held and created an enormous amount of interest.

On the whole, the considered opinion of all the Congress Members was that it was a very great success, both from the scientific and social aspects.

Our Branch was very fortunate in its Congress Executive and Committee Members, who spent months of hard work in making the function the great success it undoubtedly was. It would be difficult to name all the members of this very active Committee, but the Branch must record its sincere thanks and appreciation to all the Members, and in particular Dr. R. Geerling, *Chairman*, Dr. J. Gluckman and Dr. C. Theron, *Organizing Secretaries*, Mr. W. Girdwood and Mr. P. Theron, *Medical Secretaries*, and Dr. L. S. Robertson, *Treasurer*.

This was the biggest Congress in the history of the Association and we owe a debt of gratitude to all those concerned in the magnificent organization.

It is particularly worthy of note that the Benevolent Fund of the Association may benefit by the Congress to the extent of £1,200. This amount may be made up of £400 from the Congress itself, £150 from the East Rand Branch function, £100 donated by the Trades Exhibitors, and over £600 from the functions arranged by the Ladies' Committee.

The Ladies' Committee, under the very able Chairmanship of Mrs. Currie Brayshaw, did a wonderful job of work and their efforts, apart from the very successful social aspects, succeeded in materially assisting the Benevolent Fund by over £600.

The Branch extends its sincere thanks and appreciation to Mrs. Brayshaw and the other lady members of her Committee.

Southern Transvaal Branch Dinner: After very many years, your Council decided to reinstate this function, which was held at the Skyline Hotel on 6 February 1953. From the reports of those members present, the Dinner was a very great success.

About 115 members of the Branch were present, and the reason for this small attendance can only be attributed to some degree of apathy, and possibly because this was a departure from the usual routine of this Branch.

We were happy to entertain a number of guests, including the Mayor of Johannesburg. It is worthy of note that in addition to our present President of the Association—Dr. L. I. Braun—two Past-Presidents of the Medical Association of South Africa, Drs. J. A. Orenstein and Harvey Pirie, attended the Dinner.

We were fortunate in having with us at the Dinner two overseas visitors—Professor Platt of Manchester and Professor Bedell of New York.

It is hoped that the Dinner will now become an annual event.

Resignation of the Editor: Your Council, and subsequently the Branch, recorded their extreme regret at the resignation of the Editor, and at a Branch Meeting held recently the following Resolutions were carried and submitted for consideration for the next Federal Council Meeting:

A. That this Branch requests that an expert or experts be appointed to enquire into:

(i) The finances and general management of the affairs of the Association.

(ii) Whether or not it is desirable that the *Journal* should operate as a separate department within the Association.

B. That the Federal Council should consider the principle of whether the finances of the *Journal* should be used primarily in the interests of the *Journal*.

A further Resolution was carried unanimously, viz.:

That the Federal Council be requested to ask the Editor to withdraw his resignation until the enquiry mentioned in Resolution A has been held.

Customary Fees for Private Practice: Your Council was of the opinion that a Schedule of Customary Fees for private practice should be prepared, as it was felt that the present customary fee of Medical Aid Society Fees plus 50% might require revision. It was decided, therefore, that all Sub-Groups and Sections be requested to furnish Schedules which might act as a guide for fees in private practice.

A Sub-Committee, on which all Groups have been represented, was appointed, and it is hoped to inform members of the decision in this connexion as soon as all the information has been collected.

Medical Practitioners in Native Locations: The City Health Department has instituted a Committee of Enquiry into the policy of permitting independent medical practitioners to continue to practise in the Native Locations of the City of Johannesburg.

The Branch has been invited to give evidence before the Committee, and has already submitted a Memorandum setting out its views. A brief summary of these is that the Association does not agree with the restriction of access of medical practitioners to Native Locations, nor can it agree with any principle of discriminative selection of medical practitioners to be allowed to practice in Native Locations. Further, the Branch considers that the curative services at present furnished by the City Council are totally inadequate, and even if these were amplified and made more effective, the Association holds that no individual should be deprived of the right to choose his own private medical practitioner, in accordance with the principle laid down by the World Medical Association.

Benevolent Fund: How important the Benevolent Fund of the Association is, to those who in time of distress find it necessary to call on it for financial assistance, can only be appreciated by the Committee which deals with the claims made on it. Members of the Association may not be aware of the many calls for assistance, and how urgent and distressing are the circumstances of those who apply.

Unfortunately, the sum available for distribution amongst the beneficiaries is so small that in the majority of cases those

who are so badly in need can only obtain a grant which amounts to a mere pittance, and entirely insufficient to be of much material value.

The necessity for the need to increase the capital of this Fund cannot be stressed too strongly, and members are urged to make some contribution to the Fund.

Your Council hopes to formulate plans to assist in the matter, and has decided to hold a Ball during the year, the entire proceeds of which will be devoted to the Benevolent Fund. It is hoped that members, knowing the cause for which the function is to be organized, will give it their fullest support.

College of Physicians and Surgeons: This matter received the consideration of your Council, as well as the consideration of the Branch, and a Committee representative of all opinions of the Members of the Branch was appointed to consider every aspect of the proposed College. One of the meetings of this Committee was attended by Mr. L. B. Goldschmidt of Cape Town.

As a result of the deliberations of the Committee, your Branch adopted certain Resolutions, which were submitted to the Federal Council for consideration at its next meeting:

'This Branch of the Association is opposed in principle to the Draft Constitution of the College, on the following grounds:

1. *Function of College.* The primary function of the College should be to promote and to undertake post-graduate training and instruction. The preamble to the Memorandum and Articles specifically prescribes that the College will not teach.

2. *Fellowships and Memberships.* Honorary qualifications should not be bought for any sum of money.

3. *Foundation.* The College is a matter of concern of the entire profession and should, therefore, be so constituted that all registered medical practitioners should be eligible as Founders on an equal footing. In conformity with this principle, all classes of medical practitioners, whether general practitioners or specialists, whether they hold higher qualifications or not, should be eligible to elect the Inaugural Council. In order to safeguard the status of the College in its initial stages, it should be provided that all the Members of this Council should be senior practitioners and that of these a substantial majority should hold higher qualifications. When the number of Fellows becomes sufficiently large, the right of election of Members of the Council should be transferred to the Fellows.

4. *Honorary Fellowships.* These should be granted only as a mark of high academic or clinical distinction.

This Branch recommended to the Federal Council that it should press for the amendment of the Constitution of the proposed College, in conformity with the principles suggested in the Resolutions or, failing that, that the Federal Council should oppose the formation of the College under the Draft Constitution.'

In conclusion, *Mr. President*, I have to record a year of strenuous activity, but this has been made the more pleasant and happy for myself by the ever-ready and active co-operation of yourself, Sir, without whose advice and help at all times, the duties would have been much more difficult. I, personally, and the Branch, extend to you, *Mr. President*, our sincere thanks.

A vote of thanks is due to my *Assistant Honorary Secretary*, Mr. J. Wolfowitz, for his unstinting assistance at all times.

To Dr. L. S. Robertson, our *Honorary Treasurer*, we owe our sincere appreciation for the work he has put into the affairs of the Branch.

A word of thanks, too, to the Members of the Executive Committee, and the Members of the Branch Council for their ever-active co-operation, as well as to all the Members of the Branch.

This Report would be incomplete without paying a tribute to Mrs. Collis, our Secretary, and her assistants, Mrs. Simmons and Mrs. Graham, who have given of their best, with a smile, at all times.

Cyril Adler,
Honorary Secretary.

HONORARY TREASURER'S REPORT FOR 1952

Mr. President, Ladies and Gentlemen: I have pleasure in presenting the Balance Sheet and Audited Statement of Accounts for the year 1952.

I have to report on certain figures reflected in the Accounts:

The Income for the year was £3,721 18s. 4d., an increase of £239 over that of the previous year.

There is excess of Income over Expenditure of £492 0s. 7d. The excess over expenditure last year was £281 2s. 6d.

Expenditure during 1952 was £2,878, compared with the expenditure during 1951 of £2,501, an increase of £376.

General Expenses: These remain much the same as in the previous year, and there has actually been a decrease of £6.

Salaries: The Branch's expenditure for salaries during the year under review was £1,759, less an amount of £270 recovered from The National Cancer Association of South Africa for secretarial services. This reflects an increase of £97 over last year's amount, but it must be remembered that £60 of this amount is due to the fact that the secretarial work of the Witwatersrand and Pretoria Public Health Consultative Committee is no longer done by the staff at Medical House. The balance is due to an increase in the statutory cost-of-living allowance (£9 2s. 0d. to £12 0s. 6d.).

Native Wages: Native Wages have also risen from £199 to £238 (£39). (Wages increase and cost of living higher.)

Stationery: Expenditure on stationery reflects a considerable increase, viz. £286, as compared with £180 in 1951. This is due partly to an increase in membership, and to a large extent to the ever-increasing price of duplicating and other paper.

Telephone Expenses: These have increased from £60 in 1951 to £81, and expenditure for water, light and gas has also risen from £110 to £131.

Depreciation: The amount written off for depreciation is £78, which is considerably higher than in the previous year, and is due to the fact that a new Duplicator and other necessary office equipment was purchased during the year.

Subscriptions: Members are informed that the annual *Journal* subscription and capitation grant payable to the Head Office has been increased from £1 11s. 0d. to £2 2s. 0d. per member. Your Branch Council has decided that this increase should not be passed on to members at present. Members are aware that the Branch has recommended that there be an investigation into the finances and working of Head Office, and as a result it is hoped economies will be effected which will make an increase in the members' subscription unnecessary in future. The Branch will be responsible in 1953 for forwarding an additional amount of at least £650 to Head Office.

Arrears: I regret to have to report that outstanding subscriptions as at 31 December 1952 amount to £406 18s. 3d., which is considerably more than outstandings as at the end of 1951, viz. £228 18s. 0d.

Benevolent Fund: Last year, as you are aware, an amount of £350 was donated from Branch funds to the Benevolent Fund.

In spite of the fact that there is a surplus this year, your Branch Council does not recommend that a further donation be made at present, in view of the fact that the *Journal* subscription and capitation grant per member payable to Head Office has been increased.

I would like to report here that the Ladies' Committee of Congress handed over the sum of £558 17s. 10d., which was donated to the Benevolent Fund.

Witwatersrand Medical Library: In response to an appeal for assistance, the Branch Council decided to donate £25 to the Witwatersrand Medical Library. In the past the Library received a grant from the Federal Council, but in view of increased running costs this was found to be insufficient, and the Branch Council decided to make a direct grant.

Donations Received: Donations for the use of the Hall at Medical House have been received from the Johannesburg Clinical and Pathological Club, the South African Trained Nurses' Association, the American College of Chest Physicians and the South African Society of Physiotherapists, amounting in all to £29 8s. 0d.

Investments: During the year the amount of £1,500 on fixed deposit with the United Building Society was renewed for a further 12 months, at 4%.

Bond on Medical House: The bond on Medical House still stands at £1,750, and interest thereon is being paid at the rate of 4%.

Cash in Bank: The balance of cash in the Bank as at 31 December 1952 was £2,019 9s. 7d. (£1,000 on fixed deposit).

L. S. Robertson,
Honorary Treasurer.

PASSING EVENTS : IN DIE VERBYGAAN

Dr. Mannie Stein has commenced practice as a specialist surgeon at 1117–8 Colonial Mutual Buildings, West Street, Durban.

* * * *

Dr. Maurice Nellen, of 808 Grand Parade Centre, Castle Street, Cape Town, has changed his residential telephone number to 7-9347.

* * * *

Dr. W. P. U. Jackson, the current holder of the Eli Lilly Medical Research Fellowship (South Africa), is at present in Boston where he has been appointed Assistant in Medicine to the Massachusetts General Hospital.

* * * *

Drs. Andrew C. Watt, Allan V. Bird and S. Jacobson moved from 404 Medical Centre, Jeppe Street, to 33 Lister Buildings, Jeppe Street, Johannesburg, on 1 April 1953.

* * * *

The Board of Trustees of the Transvaal Museum, Pretoria, at its meeting held on 6 February 1953, admitted Dr. A. Jokl, of Johannesburg, as an Associate Member of the Museum in recognition of services rendered to the Institution.

* * * *

Mr. M. Cole Rous, F.R.C.S., has changed his residential telephone number to Stellenbosch 2213.

* * * *

Dr. E. F. H. Mohr, Director of Hospital Services for the Orange Free State, has been awarded a World Health Organization Fellowship to study Hospital Administration. He will visit England, Ireland, Denmark and Sweden, and will leave the Union on 11 April 1953. His visit will last for about 4 months and will also be subsidized by the Orange Free State Provincial Administration.

R.M.O. Dinner : Cape Western Area

On the last Friday night of February the annual R.M.O. Group Dinner of the Cape Western Area was held at the New Grand Hotel in Cape Town. Seventy-six people sat down to dinner and the guests of honour were the General Manager of Railways, Mr. D. du Plessis, and Mrs. du Plessis.

In his speech of welcome the President mentioned that this was a very happy occasion, since the next morning all the R.M.O.'s present would receive in the form of 'back pay' various sums of money representing increased capitation fees made retrospective to 1 April 1952.

The new Manager of Railways in his reply proved himself not only to be an authority on Sick Fund matters, but also such a captivating speaker that everybody went away with a sense that Mr. du Plessis' recent well-earned promotion was a loss to the R.M.O.'s as he would now no longer officiate as Chairman of the S.A.R. Sick Fund.

Appreciation was expressed of Dr. A. Gordon's marvellous organizational ability as Secretary in putting on every year a bigger and better R.M.O. Group Dinner, as this is the only opportunity Railway doctors get to meet one another socially as well as to get acquainted with the senior officers of the Railways.

Quadrennial Prize of the International Foundation of Gynaecology and Obstetrics

The *Société Royale Belge de Gynécologie et d'Obstétrique* will award a prize of 10,000 Belgian francs to the author of the best work on Gynaecology or Obstetrics written or published in the course of the 4 years July 1949—July 1953.

The works entered must not have been previously awarded a prize, and must be written in German, English, Spanish, French or Italian, or translated into one of these languages. They must reach the Secretariat of the Société Royale Belge de Gynécologie et d'Obstétrique (Dr. R. Vokaer, 309 Avenue Molière, Brussels), before 1 July 1953. The prize will be awarded in July 1954.

If no work appears to the appointed jury to be worthy of the prize, it will not be awarded and the amount will be added to the following prize.

XIX International Physiological Congress

The Congress will be held in Montreal, Canada, from 31 August to 4 September 1953. The Congress covers the general fields of physiology, biochemistry, pharmacology and subjects closely allied to these. 'Those eligible for membership of the Congress are Professors and Lecturers in Physiology and the allied sciences, members of physiological and similar purely scientific societies, and those ladies and gentlemen who are recommended by their National Committee.'

The Congress fee for overseas applicants is $2 (Canadian) which should be paid as soon as possible, by money order or by a draft drawn on a bank in Canada, to the Executive Secretary, XIX International Physiological Congress, McGill University, Montreal, Canada, cable address 'Physiocong'. Each active member may introduce his wife or a member of his family as an associate member, for whom a fee of $1 (Canadian) is payable.

The scientific meetings will include symposia on the following topics: Physiological Theories of Learning; Haemodynamics in Small Vessels; Physiology of Cold; Mechanism of Formation of the Thyroid Hormone; Metabolic Influence of Insulin; Postural Mechanisms; Reflexes from the Cardiac and Pulmonary Areas.

On 5 September 1953 a Pharmacologists' Meeting will be held. The scientific programme will consist of the following symposia: The Pharmacology of Renal Tubular Mechanisms; The Actions of Drugs at Autonomic Ganglia.

General Practitioners' Group of the Northern Transvaal Branch of the Medical Association

SYLLABUS FOR REFRESHER COURSE FOR GENERAL PRACTITIONERS

16 April	Dr. Kloppers	Hipertireose	8 nm.
23 April	Dr. Ziady	Fits and Faints	8 p.m.
30 April	Prof. Davel	Babavoeding	8 nm.
7 May	Prof. Davel	Baby Feeding	8 p.m.
21 May	Prof. te Groen	Occipito-posterior Presentation	8 p.m.
28 May	Dr. Geldenhuys	Hoë kop: Indikasies vir afwag of kering	8 p.m.
4 June	Prof. Bremer	Akute Buik (Deel 1)	8 p.m.
11 June	Prof. Bremer	(Deel 2) Engels	8 nm.
18 June	Prof. Barnetson	Diseases of the Prostate	8 p.m.
25 Junie	Prof. Snyman	Die rumatiese Hart	8 nm.

Fee for this course is £2 2 0.

The lectures will be held in the lower lecture room of the Teaching Block, General Hospital, Pretoria.

* * * *

Die huwelik is op 21 Maart 1953 in die Groote Kerk, Kaapstad, voltrek tussen Lt. D. le Roux Marchand, S.A.L.M., seun van dr. en mevr. L. M. Marchand, en mej. Sheila Loubser van Kaapstad.

REVIEWS OF BOOKS

Neurology

Pratique Neurologique. Volumes 1 and 2. By M. Riser. (Pp. 1428, with 374 figures. 9,000 fr.) Paris: Masson et Cie. 1952.

This work will certainly take its place amongst the best and most authoritative publications on neurology. The author, in his foreword, states that this is a *pratique* only, by which he appears to mean a clinical guide, and for this reason excuses any shortcomings that may be found in the work. There is no necessity to excuse these, for they are few.

His approach to neurology has much to commend it. The subject is treated not from the point of view of the diseases as separate entities, but in the main he takes the symptom or sign and from there demonstrates how the diagnosis should be made. The method is much the same as that of Savill's *Treatise on Medicine*.

The chapter on the epilepsies is particularly good, and

his description of the various types of attacks could not be bettered.

Any doctor, in whatever branch of the profession, would find the division dealing with the disturbances of sleep of the utmost value. The approach to the disturbances of speech, the agnosias and the apraxias, brings a clarity to this most difficult branch of neurology that is unusual in the ordinary text-books of neurology. Russell Brain states that our knowledge of the disorders of speech might be described as being in a state of chaos. Monsieur Riser is bringing a little order into this chaos.

The very extensive treatment of the syndrome of pain in all parts of the body will, again, provide information of the utmost value to many others besides those practising neurology.

The autonomic nervous system is dealt with adequately. It is invidious, however, to continue to single out individual chapters and sections from a work of uniformly high quality. The reputation of French neurologists and neuro-physiologists has always been extremely high and this publication maintains the standard. It will be of the greatest help to those learning the subject of neurology, and to those who practice and learn it during the whole of their professional lives it will still remain a help and guide. The value of the book is so great that it would well warrant translation into English in order that the knowledge it contains might be more widely disseminated.

A DICTIONARY OF PATHOGENIC BACTERIA

Dictionnaire des Bactéries Pathogènes. By Paul Hauduroy and others. (Pp. 692. 1,200 fr.) Paris: Masson et Cie, Editeurs. 1953.

For those familiar with the French language this dictionary of pathogenic bacteria in man, animals and plants should be of great interest and value. Its usefulness to the unilingual will unfortunately be slightly restricted, but scientific French is almost a universal language and there should, therefore, not be undue difficulty about consulting this valuable and comprehensive work.

BIOCHEMISTRY OF THE CAROTENOIDS

The Comparative Biochemistry of the Carotenoids. By T. W. Goodwin, D.Sc., F.R.I.C. (Pp. 356 + x. 50s.) London: Chapman & Hall Limited. 1952.

Contents: 1. Definitions and Nomenclature.
Part I. Carotenoids in Plants. 2. Carotenoids in Land Plants. 3. Formation and Function of Carotenoids in Phanerogams. 4. Carotenoids in Plants.
Part II. Animal Carotenoids. 5. Marine Invertebrates. 6. Marine Vertebrates: Amphibia; Ocean Bed. 7. Fresh Water Animals: Deposits; Amphibia. 8. Insects, Arachnids and Reptiles. 9. Mammalian Carotenoids. 10. Avian Carotenoids. 11. Conversion of Carotenoids into Vitamin A. 12. Conclusion. Appendix I. Appendix II. Name Index. Specific Name Index. Subject Index.

Of the various aspects of carotenoid chemistry, those likely to interest the general reader are the very aspects of the subject about which little is known at present. By far the greater proportion of the work which has been done in this field has been concerned with structure and occurrence: their origins and functions are still unknown. Such a proportionality is preserved in the text, for the author deals at great length, if somewhat in catalogue fashion, with the occurrence of the carotenoids and relatively short sections are devoted to their origin and function. The book would have been vastly improved from the general reader's point of view if these latter sections had been expanded, so that this aspect of the subject could have been dealt with in more detail and with a more critical approach. With its copious bibliography, however, the book will be indispensable to specialists in this particular field.

SOCIAL BIOLOGY

An Introduction to Social Biology. By Alan Dale, B.Sc. (Pp. 434 + viii, with illustrations. 21s.) Third Edition. London: William Heinemann Medical Books Limited. 1953.

Contents: 1. Life in Space and Time. 2. Man and Evolution. 3. Man as an Animal. 4. Maintaining the Human Species: (*a*) Sex. 5. Maintaining the Human Species: (*b*) Inheritance. 6. Maintaining the Human Species. (*c*) Reproduction. 7. Man and His Health: Social Hygiene. 8. Man and His Health: History of Medicine. 9. Food and Drink. 10. The Balance of Nature. 11. Population. 12. Social Life among Animals. 13. Some Reasons for Man's Success. 14. The Nature of Life. Reading List. Index.

Mr. Dale's introduction to the science of life is the outcome of his discussions held with the Sixth Forms of a large boys' Secondary School.

A certain amount of biological fact is clearly an important part of an adequate modern education, but to-day it is necessary to apply this in order to understand the broad biological principles from which each citizen constructs his 'personal philosophy of living'.

This is an exercise in *social* biology and many social values and practices, therefore, come under review.

The book is an admirable supplement to the kind of education which modern conditions demand, and is fascinating reading for the physician's leisure hours.

BEAUMONT'S MEDICINE

Medicine: Essentials for Practitioners and Students. By G. E. Beaumont, M.A., D.M. (Oxon.), F.R.C.P., D.P.H. (Lond.). Sixth Edition. (Pp. 831 + xx, with 69 illustrations. 37s. 6d.) London: J. & A. Churchill Limited. 1953.

Contents: 1. The Alimentary System. 2. The Respiratory System. 3. The Cardio-Vascular System. 4. The Nervous System. 5. The Urinary System. 6. The Haemopoietic System. 7. The Infectious Fevers. 8. Infectious Diseases of Known and Doubtful Etiology. 9. The Locomotor System. 10. Disorders of Metabolism. 11. The Ductless Glands. 12. The Tropical Diseases. 13. The Parasitic Worms. 14. Diseases Due to Physical Agents. 15. The Poisons. Index.

This book has reached its 6th edition in 20 years and continues to maintain its place as one of the important text-books of medicine in the English-speaking world. The new edition has been revised thoroughly and new chapters have been added where necessary.

In many ways it is still old-fashioned. The treatment of acute tonsillitis is a good example. Many would consider the treatment of gastric ulcer to be too cautious. There is evidence that a more liberal diet in the first few weeks may actually promote healing. In the treatment of haemophilia, too, great reliance has been placed on blood transfusion and the advice to remove focal sepsis from the mouth should surely be coupled with a stern warning against all varieties of surgical intervention. Prophylactic weekly intravenous injections of plasma should not be recommended because of their tendency to produce an even more refractory haemorrhagic state. The classification of purpura is poor and gains little by the inclusion of secondary purpura under the heading of Werlhof's purpura. Phenylhydrazine is rarely used in the treatment of polycythemia vera and could be omitted as could cardio-omentopexy in the treatment of angina pectoris.

None of these criticisms will prevent this edition from being as popular with students and practitioners as any of its predecessors. It provides the essentials of medicine in an attractive, concise, up-to-date and not too expensive form.

CORRESPONDENCE

NATIVITY AND THE INCIDENCE OF MENTAL DISORDER IN SOUTH AFRICA

To the Editor: Analysis of data embodied in the 1936 Annual Report of the Commissioner of Mental Hygiene in the Union of South Africa indicates that the birthplace of an individual may increase his liability to mental disorder. The extent to which this is so is reflected in Table I.

It emerges from the figures in Table I that the admission rate to mental hospitals in the Union of South Africa for persons born in South Africa is 37.6 per 100,000 of population born in South Africa, and that the admission rates for foreign-

TABLE I: BIRTHPLACE OF EUROPEAN FIRST ADMISSIONS TO MENTAL HOSPITALS IN THE UNION OF SOUTH AFRICA, 1936.

Birthplace	*Population Census* 1936	*No. of First Admissions*	*Admission Rate per* 100,000 *Population*
British South Africa	1,765,250	665	37·6
Other African countries ..	4,790	16	334·0
England	98,799	55	55·6
Ireland	10,622	12	112·9
Scotland	32,856	19	57·9
Wales	3,698	1	27·4
United Kingdom	675	—	—
Gibraltar and Malta	177	—	—
Austria	913	—	—
Belgium	562	2	355·8
Bulgaria	11	—	—
Czecho-Slovakia	162	—	—
Denmark	649	2	308·1
Esthonia	62	—	—
Finland	67	—	—
France	1,043	—	—
Germany	13,440	10	74·4
Greece	1,872	1	53·4
Holland	6,389	4	62·6
Hungary	147	—	—
Italy	2,001	—	—
Jugoslavia	523	1	191·3
Latvia	3,443	1	29·0
Lithuania	13,285	4	30·1
Norway	1,403	2	142·5
Portugal	711	2	281·3
Roumania	156	—	—
Russia	16,236	7	49·3
Poland	4,224	—	—
Spain	139	—	—
Sweden	803	—	—
Switzerland	877	2	228·0
Turkey	154	—	—
Other European countries ..	667	—	—
Other countries	15,914	11	69·9
Unspecified	937	104	11,099·0
Total	2,003,857	921	45·9

TABLE II: ADMISSION RATES OF IMMIGRANTS TO MENTAL HOSPITALS IN THE UNION OF SOUTH AFRICA IN RANK ORDER OF THEIR COUNTRIES OF ORIGIN AND COMPARED WITH THE ADMISSION RATE FOR SOUTH AFRICAN-BORN SOUTH AFRICANS, 1936.

Countries of Origin	*Admission Rate per* 100,000 *Population of Some Immigrant National Group*	*Ratio of Admission Rate to that of S.A.-born South Africans*
Belgium	355·8	9·4
Other African countries ..	334·0	8·9
Denmark	308·1	8·2
Portugal	281·3	7·5
Switzerland	228·0	6·1
Jugoslavia	191·3	5·1
Norway	142·5	3·8
Ireland	112·9	3·0
Germany	74·4	1·9
Other countries	69·9	1·8
Holland	62·6	1·6
Scotland	57·9	1·5
England	55·6	1·4
Greece	53·4	1·4
Russia	49·3	1·3
British South Africa	37·6	1·0
Lithuania	30·1	0·8
Latvia	29·0	0·7
Wales	27·4	0·7

born South Africans exceed in every case that for South Africans born in South Africa, with only 3 exceptions, viz., Wales, Latvia, Lithuania. The rank order of foreign countries (from which immigrants derive) with reference to the admission rates is indicated in Table II.

It will be noted from Table II that the admission rate for Belgian settlers in South Africa is greater than that for any other nationals, and is followed by those for immigrants from 'Other African Countries', Denmark, Portugal, Switzerland, Jugoslavia, Norway, etc. Thus the inference emerges that the liability of Belgian settlers in the Union to mental disorder is 9.4 times greater than that of South African-born South Africans, and that the liability of settlers from 'other African countries', Denmark, Portugal, Switzerland, Jugoslavia, Norway, etc., is respectively 8.9, 8.2, 7.5, 6.1, 5.1, and 3.8 times greater than that of native-born South Africans. It may be postulated that the greater the admission rate for a particular immigrant group, the less is their capacity for adaptation to the socio-cultural environment in which they are projected, and the less is their sense of psycho-social security. In so far as this is so, it may be stated that those immigrants with a high admission rate have a high susceptibility to mental disorder. Accordingly, of the immigrant groups referred to, the Belgians would have the highest susceptibility to psychotic mental disorder, and the Latvians and the Welsh the lowest. It is, however, the view of the writer that this finding *cannot* be utilized as an argument in favour of a differential immigration policy with respect to the various European ethnic groups.

Louis F. Freed, M.D.

2 Barbican Buildings,
Opposite City Hall,
Johannesburg.
12 March 1953.

APPENDICECTOMY

To the Editor: The article on appendicitis by Dr. W. Silber published in your *Journal* on 28 February 1953, raises an important question: is the histological examination of the appendix, some time after its removal, an infallible diagnostic guide?

While a proportion of acute appendicular lesions are indeed acute inflammations, and are truly examples of acute appendicitis which will show the histological features of an acute inflammation, there are many other cases in which the pathology is not initially an inflammatory one, but is of a mechanical or obstructing character. In the early stages of such an acute lesion the pathology is often that of the initial phases of strangulation, viz. oedema, congestion and, possibly, petechial haemorrhages.

At operation at this phase, the gross appearance of the appendix, *in situ*, may clearly indicate a pathological lesion: it may look swollen and feel rigid and thickened. However, after the appendix has been removed and left in a bowl for some time, and after it has been opened by a longitudinal slit still later on, and then preserved in formaldehyde solution, the histological findings may well be doubtful and may not reveal anything abnormal or distinguishable from an appearance consistent with operative trauma. By the time the appendix is sent to the pathologist, the whole vascular and mechanical process initiated by an obstruction of the lumen of the appendix may have been reversed, so that there are no abnormal histological features.

There is no doubt that many appendices are removed unnecessarily, but the very high proportion of unnecessary appendicectomies reported by Dr. Silber might not appear so sorry a state of affairs if the histological findings were not regarded as the sole criterion of diagnosis, but were correlated with the appearance and 'feel' of the appendix on exposure *in situ* before its removal.

Wilfred Kark, F.R.C.S.

33 Jenner Chambers,
Jeppe Street,
Johannesburg.
14 March 1953.

Instructions to Authors

All authors are advised to consult *Medical Writing*, by Dr. M. Fishbein, formerly Editor of the *Journal of the American Medical Association*. The volume is obtainable from medical libraries in South Africa. It is published by the Blakiston Co., Philadelphia, U.S.A.

Papers submitted for publication in this *Journal* are accepted on condition that they have not been published elsewhere. The *Journal* Management reserves the copyright of all material published.

Considerable delay in the publication of papers is often due to the fact that they are poorly prepared. Publication will be expedited if the following specifications are complied with:—

1. All copy should be typewritten (double or preferably triple spaced) with wide margins.

2. Tables, references, graphs, illustrations and legends for illustrations should be clearly identified and *prepared on separate sheets*.

3. All photographs should be glossy prints unmounted, untrimmed and unmarked. Authors' suggestions for trimming, etc., are most suitably indicated on a duplicate print or diagram.

4. In no circumstances should original X-ray films be forwarded. Glossy prints must be submitted.

5. Line drawings should be on white board, arranged to conserve vertical space. All lettering in diagrams and graphs should be indicated clearly in soft lead pencil, preferably on a duplicate specimen or diagram in rough. In no circumstances should lettering be inked in or typewritten on the figure or the graph. Illustrations should not exceed 12 inches × 18 inches in size.

6. Figure numbers should be marked clearly on the back of each illustration, and in every case the top of the illustration should be indicated.

7. A limited but reasonable amount of illustrative and tabular matter is allowed free. Additional material of this sort may be allowed at cost, at the discretion of the Editor.

8. All references to the literature should be inserted in the text as a superior number and listed at the end of the article in numerical order.

9. References must conform to the following convention (journal titles being abbreviated according to the *World List of Scientific Periodicals*):—

White, J. and Brown, A. B. (1946): Arch. Clin. Med., **123**, 167.

Books should be cited as follows:—

Smith, J. (1946): *An Introduction to Medicine*, 2nd ed., p. 174. Cape Town: John Black, Ltd.

10. All numerals to be printed as figures (i.e. *not* spelt out). *For 'one' or 'I' always follow copy.* All numerals *always* to be spelt out in full at the beginning of a sentence.

11. Cubic centimetre *as* c.c.; Cubic millimetre *as* c.mm.; 7.11.46 *as* 7 November 1946; 2nd *as* second; 10/6 *as* 10*s.* 6*d.*; Per cent. *as* %; 1″ *as* 1 inch; B.P. 140/80 *as* Blood pressure, 140/80 mm. Hg.

12. Each paper should conclude with a summary (of about 200 words) intelligible apart from reference to the main text of the article.

13*a*. Galley proofs will be forwarded to the author in good time before publication date.

13*b*. Corrections, other than typographical errors, will be charged to the author. It is therefore most important that the MS. be submitted in its *final form*.

14. *Reprints:* An order blank for reprints, together with a price list, will be sent to the author as soon as his article reaches page-proof stage.

15. All manuscripts and correspondence should be addressed to:—The Editor, *The South African Medical Journal*, P.O. Box 643, Cape Town.

Provincial Administration of the Cape of Good Hope

HOSPITALS DEPARTMENT

HOSPITAL BOARD SERVICE : VACANCIES

Applications are invited for the under-mentioned vacant posts in the Hospital Board Service.

In addition to the salary scales indicated, a temporary cost-of-living allowance at rates prescribed from time to time by the Administrator, is payable.

The appointment of the successful candidate will be in terms of and subject to the provisions of the Hospital Board Service Ordinance No. 19 of 1941 and the regulations framed thereunder.

Applications should be submitted (in duplicate) on the prescribed form Staff 23 which is obtainable from the Director of Hospital Services, P.O. Box 2060, 112 Loop Street, Cape Town, the Acting Branch Representative, Hospitals Department, P.O. Box 1487, 58 Loop Street, Cape Town, the Medical Superintendent of any Provincial Hospital or the Secretary of any School Board in the Cape Province.

Applications should be addressed to the Acting Branch Representative, Hospitals Department, P.O. Box 1487, 58 Loop Street, Cape Town, and should be posted to arrive not later than noon on 9 May 1953.

Institution	*Post*	*Emoluments*
Victoria Hospital	Medical Practitioner, Grade 'A'	£500—600—660—720 per annum

1. Institution approved for specialist training.
2. Candidates must have at least 3 years' experience after having received their grade or 2 years' experience after registration.
3. The contract will be for a period of 2 years and the Administration reserves the right to extend the period for a further 2 years.

(44033)

City of Cape Town

VACANCIES FOR MEDICAL OFFICERS

Applications are invited from registered medical practitioners under 45 years of age for the following positions in the City Health Department:

(a) *Resident Medical Officer, Brooklyn Hospital for Chest Diseases.*

Salary scale: £900 × 50—£1,150, less £226 per annum for quarters, rations, light, fuel and laundry.

Experience in modern methods of treatment of tuberculosis will be a recommendation.

(b) *Resident Medical Officer, City Hospital for Infectious Diseases.*

Salary scale: £900 × 50—£1,150, less £226 per annum for quarters, rations, light, fuel and laundry.

Experience in modern methods of treatment of infectious diseases and tuberculosis will be a recommendation.

In addition to the above salary scales temporary non-pensionable cost-of-living allowances are payable at rates approved by the Council from time to time.

The successful applicants will be required to devote the whole of their time to the service of the Council and the appointments will be subject to the provisions of Municipal Ordinance No. 19 of 1951, the Standing Orders and regulations of the Council and the conditions of service as laid down in the Municipal Staff Code, all as amended from time to time.

Applicants must specify on the application forms for which position they are applying.

Applications must be made in duplicate on the prescribed forms obtainable from the Senior Staff Officer, 2nd Floor, Municipal Buildings, Longmarket Street, Cape Town, and should reach him not later than noon on 11 May 1953.

Canvassing of Councillors will be a disqualification.

City Hall
Cape Town
13 April 1953
7715

M. B. Williams
Town Clerk

(13702)

South African Railways and Harbours Sick Fund

APPOINTMENT OF RAILWAY MEDICAL OFFICER: DANVILLE

Applications are invited from duly registered medical practitioners for the appointment to the position of Railway Medical Officer, Danville, i.e., Danville, Proclamation Hill, Iscor Township, Cordelfos, Voortrekkerhoogte and the line section, Pretoria (excl.) to Magaliesburg (excl.) at a salary of £397 per annum, plus the fees and allowances prescribed by the regulations of the Sick Fund, and with the right of private practice.

The salary will be subject to adjustment in accordance with the census of members to be taken on 1 April of each year.

The appointment will be made in terms of the Regulations of the Fund, and will be subject to termination on four months' notice being given by either side.

The successful applicant will be required to reside at Pretoria, to take up the appointment on a date to be arranged, and to carry out his duties in accordance with the Regulations of the Fund.

Applications should reach the District Secretary, District Sick Fund Board, Scheiding Street, Pretoria, Eastern Transvaal, not later than 23 May 1953, and should state:

1. Full name.
2. Qualifications (where and when obtained).
3. Experience (where and when obtained).
4. Date of birth.
5. Country of birth.
6. Married or single.
7. Whether fully bilingual.
8. Whether South African citizen.
9. What Government appointment, if any, is held.

Canvassing by or on behalf of any applicant is liable to disqualify such applicant.

Any further particulars required may be obtained from the District Secretary at the above address, on application.

Johannesburg
25 April 1953

P. J. Klem
General Secretary

Provincial Administration of the Cape of Good Hope

HOSPITALS DEPARTMENT

Applications are invited from registered medical practitioners for appointment to the under-mentioned vacant posts.

Victoria Hospital:

1. Honorary general medical practitioner.
2. Honorary surgeon.
3. Honorary orthopaedic surgeon.
4. Honorary dental surgeon.

False Bay Hospital:

1. Honorary paediatrician.

The appointment will be for 5 years, but may be terminated before the end of that period if and when the medical staffing of the hospitals is reorganized.

Applications containing particulars of age, qualifications, experience, etc. with copies of recent testimonials should be forwarded to reach the Branch Representative, Hospitals Department, 58 Loop Street, Cape Town, not later than noon on Saturday, 9 May 1953.

(44034)

Assistent Benodig

Assistent benodig vir Transvaalse plattelandse praktyk, hospitaal en distriksgeneesheer aanstelling wat veel ondervinding vir jong man bied. Verdere reëlings sal van bekwaamheid van applikant afhang. Skryf aan 'A. Q. D.', Posbus 643, Kaapstad.

The Medical Association of South Africa : Die Mediese Vereniging van Suid-Afrika

AGENCY DEPARTMENT : AGENTSKAP-AFDELING

JOHANNESBURG

Medical House, 5 Esselen Street. Telephone 44-9134-5, 44-0817
Mediese Huis, Esselenstraat 5. Telefone 44-9134-5, 44-0817

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(Pr S73) Excellent Pretoria practice, established 20 years ago. Two appointments worth £115 per month. *Net* income of £3,000 p.a. £400—£500 monthly bookings. Three months' introduction will be given. Premium required is £3,000 payable as follows: £1,000 cash and balance at £100 per month. Further details on application.

(Pr S76) Unopposed O.F.S. country practice. Average net income is £2,000 per annum. Premium required is £1,500 and payable as follows: £500 deposit and balance out of earnings over a period to be arranged. Beautiful house and surgery to let.

(Pr S74) O.V.S. Uitstekende praktyk met een myn-aanstelling van £400 per jaar. Aanstelling is definitief oordraagbaar. Jaarlikse inkomste van tussen £2,400 en £3,000 kan aansienlik vermeerder word. Premie is £750 en betaalbaar as volg: deposito van ongeveer £500 en balans teen £25 per maand. Huis en spreekkamers te huur teen £5 per maand.

(Pr S75) Oos-Transvaal. Geen opposisie en in hande van eienaar vir laaste 13 jaar. Een aanstelling. Jaarlikse inkomste is ongeveer £2,250. Lewenskoste baie laag. Pragtige woning en spreekkamers op een morg, tesame met praktyk, word aangebied teen die nominale bedrag van £3,500 en kopers kan voorstel tot afbetaling, voorlê.

(P O15) REDUCED PREMIUM: Half share in O.F.S. country practice partnership. Annual income £7,000 plus, showing a net income of £2,000 for each partner. Premium reduced to £1,500 and terms can be arranged.

(P O16) Half share in general practice in Southern Rhodesia hospital town. Average net share of each partner £4,600 p.a. Appointments worth £2,700 p.a. Premium and house on terms. Will suit man with wide surgical experience.

(Pr S77) Transvaal. Aangename privaat praktyk. Gemiddelde jaarlikse inkomste oorskrei £3,000. Elektriese krag. Gerieflike moderne woonhuis op twee erwe en moderne spreekkamers op aangrensende 2 erwe. Woonhuis teen £3,500 indien verlang en spreekkamers teen £1,500. Premie verlang is £1,750. Terme kan gereël word, asook ruim verband.

(Pr S79) Southern Rhodesia. Very well-established practice in hospital town. Details on application.

(Pr S80) Vrystaatse hospitaal dorp. Uitstekende praktyk. Die praktyk is ou-gevestig en reeds vir baie jare in die hande van die verkoper. Premie £2,000 en moet liewers kontant betaal word. Die jaarlikse inkomste oorskrei £3,500 en kan aanstenlik vermeerder word. Die verkoper neem geen nagwerk aan nie. Een aanstelling. Besonderhede sal alleen verskaf word aan *bona fide* kopers.

* * * *

DURBAN

112 Medical Centre, Field Street. Telephone 2-4049

PRACTICES FOR SALE : PRAKTYKE TE KOOP

(PD13) Natal Lower South Coast practice, near Pondoland border, suitable for retired doctor. Area developing and large Police holiday camp in vicinity. Excellent climate and very good fishing. Premium required £400, includes good stock of drugs and dressings, instruments and dispensary furniture. House for sale £1,800, including stand of one-third morgen. Bond available. For immediate sale. Owner having taken a full-time appointment.

(PD15) General practice established 1941 at pleasant residential and seaside resort about 10 miles south of Durban. Annual income approximately £1,000. No major surgery, minimum of minor surgery and only emergency midwifery being done at present. Brick house with consulting room attached, for sale at £5,250. Owing to ill health owner wishes to retire early in 1953. Premium £1,250 including drugs, surgery and dispensary furniture.

(PD18) Natal Midlands. Excellent prospects in rapidly developing area. General mixed practice. Seller going overseas. Premium £1,500 includes surgery furniture, fittings, instruments. Total gross receipts for 1950, £2,691; 1951, £2,709; 1952, £2,573. Ideal climate and sporting facilities. For immediate sale.

(PD19) Eastern Pondoland. General country practice suitable for husband and wife. District Surgeoncy vacant. Gross receipts 1950, £2,114; 1951, £2,235; 1952, £2,221. Premium £500 includes drugs and furniture. One appointment. Practice and house for immediate sale.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(132) Durban. Locum required as soon as possible for 3 months in well-established general practice. Possibility of assistantship. Salary to be discussed with the principal.

(133) From 15 June for 1 month. Locum preferably with own car. General country practice and District Surgeoncy. £2 12s. 6d. per day, plus board, lodging and laundry. Excellent climate. Near Drakensberg mountains.

(134) Zululand. From 26 June to end of July. £2 12s. 6d. per day, all found. Must be bilingual and possess own car.

* * * *

KAAPSTAD : CAPE TOWN

Posbus 643, Telefoon 2-6177: P.O. Box 643, Telephone 2-6177.

PRAKTYKE TE KOOP : PRACTICES FOR SALE

(1016) Eastern Province. Unopposed solus practice. Average annual receipts £2,471. Premium for goodwill £750. Drugs, furniture and instruments offered at £190. Terms available. Attractive modern home to rent at £8 10s. p.m. Rental roomy surgery, £3 p.m. Two appointments.

(1295) Karoo hospitaaldorp. Geleë in vooruitstrewende skaapdistrik. Ontvangste vir 1952: £2,640. Premie verlang: £1,250. £500 kontant, balans oor 2½ jaar. Drie aanstellings aan die praktyk verbonde.

(1307) Cape Town branch practice in residential area. Upper middle class European patients. Income for 1952 was £1,280. Few minor appointments attached to the practice. Premium required £750, including surgery furniture, few instruments and drugs. Excellent scope for expansion. House for sale at £5,750, but purchase optional.

(1331) Transkei, mainly Native practice. Gross cash income for 1951–52 was approx. £3,300. House to rent at £7, surgery at £6. Premium required £1,750, including surgery furniture, drugs.

(1349) Eastern Province hospital town. Partnership share in large busy practice. Gross income for the last year was over £5,000. Premium required £1,750, including half-share in consulting rooms. House for sale. Excellent opportunity for Afrikaans doctor interested in surgery.

(1353) CAPE TOWN PRACTICE. DETAILS ON APPLICATION.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(1186) Noordwes Kaapland. Assistent vir 6 maande of langer. Salaris £75 per maand, plus vry huis of vry losies.

(1167) Namaqualand. 'n Afrikaanssprekende assistent. Motorkar word voorsien. Goeie diensvoorwaardes en salaris.

(1306) Westelike Provinsie. Assistentskap met oog tot vennootskap. Moet ten volle tweetalig wees en eie kar besit. Salaris £80 per maand plus petroltoelaag.

(1347) Cape Town suburb. Gentile assistant with view to partnership. Salary offered £80—£100 per month according to qualifications. Locum must have own car.

(1348) Westelike Provinsie hospitaaldorp. Tweetalige assistent so gou moontlik. Salaris £75 per maand. Motor sal voorsien word. Algemene praktyk met aanstellings.

(1351) Karoo. Vanaf middel Junie of so gou moontlik daarna.

vir een maand. Salaris £3 3s. per dag plus losies en kartoelae indien eie motor voorsien word. Getroude man welkom.

MICROSCOPE FOR SALE

(1291) Reickert—3 Objectives, x10, x60, x100 oil immersion. Mechanical stage. Abbé condenser. 3 Eyepieces, 4x, 10x, 16x. £50.

MEDICAL OFFICERS FOR MISSION HOSPITALS

(1334) The Umlamli Mission Hospital, P.O. Sterkspruit, urgently requires a general practitioner. Cape salary scale applicable. The hospital has 120 beds (medical, surgical, maternity and infectious diseases).

(1313) Scottish Livingstone Mission Hospital, Molepolole, Bechuanaland. From June/July for 1 year.

Basutoland Government

VACANCY FOR MEDICAL OFFICER

Applications are invited from registered medical practitioners for the above pensionable post, on a salary scale of £865—£865—£935 × 35—£1,005 × 45—£1,140 × 45—£1,320 per annum. Entry point on this scale is determined by war service and/or previous experience. Cost-of-living allowance is payable; the present rates are:

Married Officers: On the first £800 of salary—12½%; on the remaining salary—7½% with a maximum of £132 per annum.

Single Officers: One half of the above rates, subject to a maximum of £66 per annum.

Rental deduction of 10% of salary for furnished quarters.

Annual vacation (accumulative) leave of 6 weeks and 2 weeks occasional (non-accumulative) leave are granted, subject to the exigencies of the service. Biennial warrant to the coast. Overseas leave passage allowance for officer, wife and proportionate allowance for children every tour of 3 years.

Private practice is at present allowed but is subordinate to official duties.

A knowledge of practical surgery will be an advantage.

Initially the successful candidate will be required to be Relieving Medical Officer.

The climate is healthy and the Territory free from tropical diseases.

Applications should be forwarded to the Director of Medical Services, Maseru (from whom further particulars may be obtained) by 9 May 1953. (901)

Locum Required

Registered specialist surgeon able to do general surgery, some gynaecology and ear, nose and throat work, required for September and October 1953 under terms to be arranged and usual bond.

The location of the practice is in a pleasant inland city, the work in not hard, and all concentrated in one hospital.

Accommodation can be made available in principal's home and car can be provided. Ideal for busy coastal surgeon who wants a paid semi-holiday. Apply: 'A. Q. J.', P.O. Box 643, Cape Town.

Assistantship Offered: Cape Town

Assistantship offered with view to early partnership. Central Cape Town. Knowledge of surgery a definite advantage. Commencing August 1953. For further particulars write 'A. Q. K.', P.O. Box 643, Cape Town.

Assistant Required

Professional assistant required, full time or part-time, male or female. Industrial practice, Cape Town. Duties to commence on 1 July 1953. Write 'A. Q. G.', P.O. Box 643, Cape Town.

Vacant District Surgeoncies

Applications for the under-mentioned District Surgeoncies accompanied by full particulars as to date and country of birth, qualifications, experience and previous and present appointments of the applicants and the earliest date on which they can assume duty, if appointed, should reach the Secretary for Health P.O. Box 386, Pretoria, not later than 13 May 1953. Testimonials (copies) may be submitted, but the Minister of Health wishes to be known that any candidate will be regarded as disqualified who directly or indirectly canvasses for appointment.

The appointments are on a part-time basis and private practice is not precluded.

Applicants should state whether they have a knowledge of both official languages, also whether they are competent to diagnose leprosy and venereal diseases and to use the modern intravenous and other therapeutic technique in the treatment of venereal disease. Applicants should also state whether they have any experience as a medical officer of health or in any similar capacity. If more than one post is applied for a separate application should be submitted in respect of each.

Place	*Salary per annum*	*Drug allowance per annum*
Cape Province:	£	£
De Aar	250	30
Stanford	150	20
Seymour	250	30
Villiersdorp	90	20
Warrenton	300	30
Willowmore	475	65
Transvaal:		
Boksburg	680	*

*Drugs under contract.

The salaries cover all ordinary and routine services but travelling allowance of 1s. per mile for all mileage travelled outside a radius of 3 miles from headquarters, night detention at 15s. and supplementary fees for certain other services will be payable. Also fees for attendance at courts and inquests in accordance with the tariff of the Department of Justice.

Forms of applications and copy of draft agreement will be furnished on application. (40612)

Medical Rooms to Let

JOHANNESBURG—WESTERN SUBURBS

In the heart of the western suburbs, particularly Mayfair West, Crosby, Brixton and Hursthill, modern rooms, furnished or unfurnished, suitable for full-time or part-time use. For further particulars contact J. Noach, 47 High Street, Brixton, Johannesburg. Telephone: 35-4119.

Wanted

One Physiotherapist to work full-time at Rehabilitation Centre in Gwelo, Southern Rhodesia. Salary £40 per month. Accommodation provided at site at £9 per month. Reply: Secretary, Poliomyelitis Rehabilitation Centre, P.O. Box 484, Gwelo, Southern Rhodesia.

Transvaalse Provinsiale Administrasie

VAKATURES BY PUBLIEKE HOSPITALE

Aansoeke word ingewag van kandidate met geskikte kwalifikasies vir die onderstaande poste by publieke hospitale in die Transvaal.

Aansoeke moet gerig word aan die Geneeskundige Superintendent of Verantwoordelike Geneesheer van die betrokke hospitaal en moet volle besonderhede bevat aangaande die ouderdom, professionele, akademiese en taalkwalifikasies, ondervinding en huwelikstaat van die applikant en moet voorts 'n aanduiding bevat van die vroegste datum waarop diens aanvaar kan word:

Lewenskostetoelae tans betaalbaar aan voltydse werknemers:

Salaris	*Lewenskostetoelae*	
	Getroud	*Ongetroud*
Oor £350	£320 p.j.	£100 p.j.

Van persone wat aangestel word, sal verwag word om bevredigende sertifikate in te dien, asook om hulle te onderwerp aan 'n geneeskundige ondersoek by die betrokke hospitaal.

Aansoek vorms is verkrygbaar van enige Transvaalse Publieke Hospitaal of die Provinsiale Sekretaris, Afdeling Hospitaaldienste, Posbus 2060, Pretoria.

Benewens jaarlikse salaris en lewenskostetoelae ontvang voltydse werknemers spoorwegkonsessie en word verlof toegestaan ooreenkomstig die hospitaal verlofregulasies.

Die sluitingsdatum van aansoeke vir die poste is 4 Mei 1953.

Hospitaal	*Vakature*	*Emolumente*	*Opmerkings*
Tara, Johannesburg	Deeltydse assistent geneesheer (1)	£512×10 p.j.	Geregistreerde mediese praktisyn. Moet behoorlik deur opleiding en kwalifikasies gekwalifiseerd wees. 2½ sessies per week. (40582)

Anglo-Alpha Cement, Limited

APPOINTMENT : MEDICAL OFFICER

Applications are invited from registered medical practitioners for the appointment of part-time medical officer, to attend the Company's non-European employees at their Dudfield Works, Transvaal.

Terms of appointment, etc. on application from the undersigned. Applications must reach the Company by not later than 12 May 1953.

Anglo-Alpha Cement, Limited, P.O. Box 6810, Johannesburg.

(This appointment has been approved by the Medical Association.—*Assistant Secretary.*)

Practice for Sale

Northern Natal. An unopposed dispensing practice in a wealthy farming district. Annual gross income £3,500, including D.S. appointment and big Native cash income. Practice, drugs, instruments and a Jeep (useful in wet weather) for £2,500. A 9 roomed house, 7 roomed surgery, 3 garages, Native quarters, etc. all for £3,500. Total £6,000. Owner selling for health reasons. Write 'A. Q. E.', P.O. Box 643, Cape Town.

Partnership Offered

Partnership offered to anaesthetist specialist in flourishing solus anaesthetic practice. Large centre. Reasonable premium and terms offered. Reply, stating age, experience, marital status and date when free to commence, to 'A. Q. H.', P.O. Box 643, Cape Town.

Nasionale Hospitaal, Bloemfontein

VAKATURE

Aansoeke word hiermee ingewag van kandidate met geskikte kwalifikasies vir die volgende pos by die Nasionale Hospitaal en Tempe Provinsiale Hospitaal, Bloemfontein.

Aansoeke moet gerig word om die Geneesheer-Direkteur te bereik voor 16 Mei 1953 en moet volle besonderhede bevat aangaande die ouderdom, professionele kwalifikasies, ondervinding en huwelikstaat van die applikant en moet voorts 'n aanduiding bevat van die vroegste datum waarop diens aanvaar kan word indien aangestel.

(a) Voltydse Narkotiseur-spesialis op die salarisskaal £1,750 × 50—£1,900 p.j. plus heersende lewenskostetoelae.

Van die suksesvolle applikant sal verwag word om bevredigende sertifikate in te dien aangaande kwalifikasies.

Alle aanstellings geskied in terme van die hospitaal regulasies soos gewysig.

J. W. Wessels
Geneesheer-Direkteur

10 April 1953 (A375509)

National Hospital, Bloemfontein

VACANCIES

Applications are hereby invited from candidates with suitable qualifications for the following post at the National Hospital and Tempe Provincial Hospital, Bloemfontein.

Applications must be posted to reach the Medical Superintendent before 16 May 1953 and must contain full particulars concerning age, professional qualifications, experience and marital status of the applicants who must indicate the earliest date on which duty can be assumed if appointed.

(a) Full time specialist Anaesthetist on the salary scale £1,750 × 50—£1,900 p.a. plus ruling cost of living.

The successful applicant will be expected to produce satisfactory certificates concerning qualifications.

All appointments are subject to the hospital regulations as amended.

J. W. Wessels
Medical Superintendent

10 April 1953 (A375509)

Natal Provincial Administration

VACANCY : MEDICAL SUPERINTENDENT : NEWCASTLE HOSPITAL

Applications are invited from registered medical practitioners, with considerable clinical experience, for appointment to the above post.

Salary: £1,300 × 50—£1,500 per annum.

Cost-of-living allowance: Single £100 per annum. Married £320 per annum.

Appointments are on 5 years contract.

Applications, giving full details of experience and qualifications should reach the Director, Provincial Medical and Health Services, P.O. Box 20, Pietermaritzburg, by 19 May 1953.

(AD7580)

Natalse Provinsiale Administrasie

VAKATURE : GENEESHEER-SUPERINTENDENT : NEWCASTLE HOSPITAAL

Aansoeke om aanstelling in bovermelde pos word van geregistreerde mediese praktisyns ingewag. Kandidate moet heelwat vorige kliniese ondervinding hê.

Salarisskaal: £1,300 × 50—£1,500 per jaar.

Duurtetoeslag: Ongetroud—£100 per jaar. Getroud—£320 per jaar.

Aanstellings is op kontrak vir vyf jaar.

Aansoeke met volledige besonderhede betreffende ervaring en kwalifikasies moet aan die Direkteur van Provinsiale Mediese en Gesondheidsdienste, Posbus 20, Pietermaritzburg, gerig word, sodat hulle hom voor of op 19 Mei 1953, bereik.

(AD7580)

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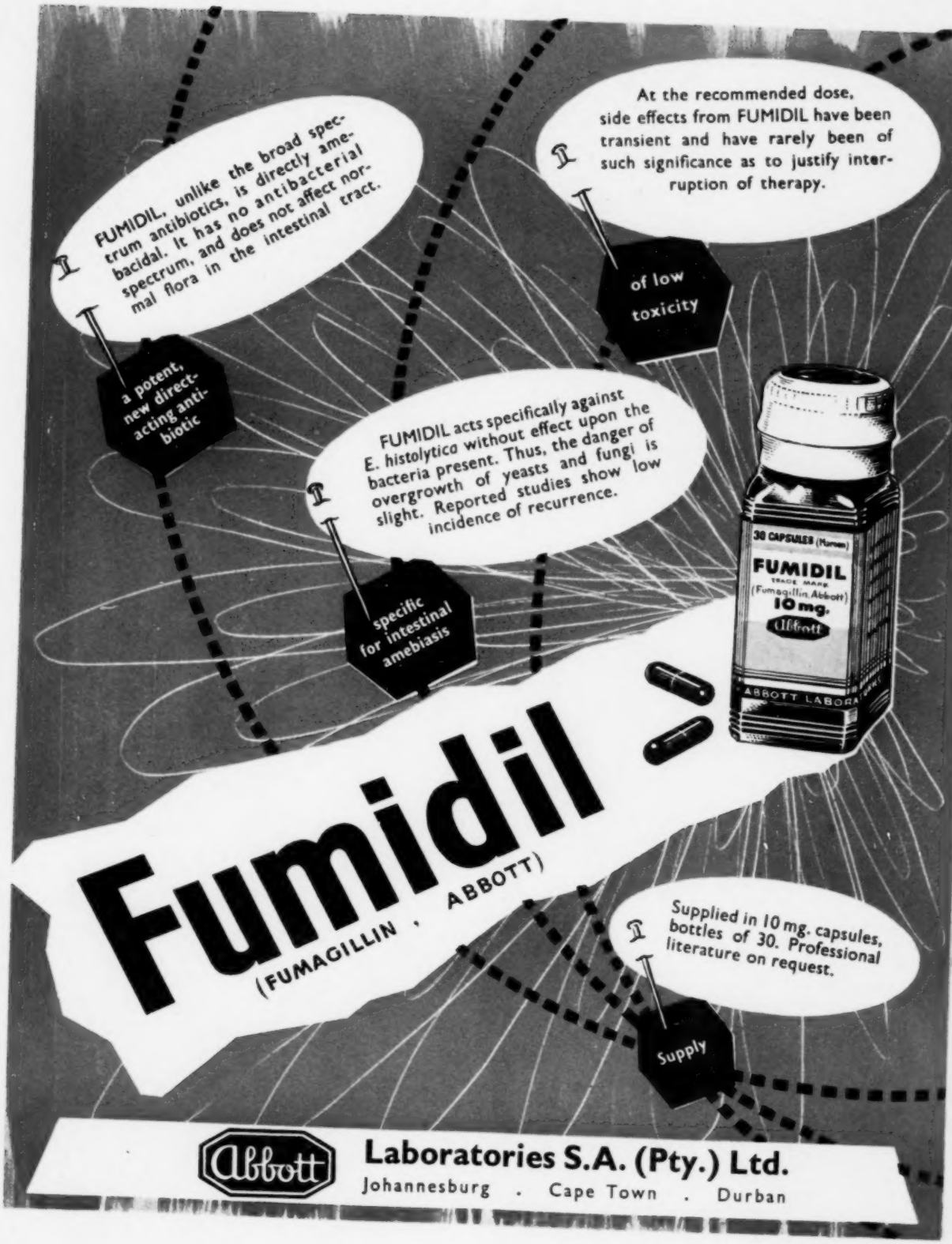
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a potent, new direct-acting antibiotic
At the recommended dose, side effects from FUMIDIL have been transient and have rarely been of such significance as to justify interruption of therapy.
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FUMIDIL acts specifically against E. histolytica without effect upon the bacteria present. Thus, the danger of overgrowth of yeasts and fungi is slight. Reported studies show low incidence of recurrence.
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